THE EFFECTIVENESS OF THE LENGTH OF COMMERCIALS IN DIFFERENT TYPES OF TELEVISION PROGRAMS

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ABSTRACT

YONGICK JEONG: The Effectiveness of the Length of Commercials in Different Types of Television Programs
(Under the direction of Joe Bob Hester)

The effectiveness of television advertising has been most extensively investigated with two variables, moods-generated by television programs and the length of commercials. However, scant attention has been paid to determining these variables together and investigating the interaction between them in influencing advertising effectiveness.

This study hypothesized that longer ads would be more effective than their shorter counterparts and that ads placed in a positive mood program would be more effective than those embedded in a negative program. To examine these hypotheses, this study conducted a 2X2 factorial-designed experiment. The data for this study were analyzed using a two-way analysis of variance (ANOVA). This study included two independent variables, commercial-length formats (15-second and 30-second) and program-induced moods (positive and negative). The dependent variable was advertising effectiveness measured by brand recall, brand recognition, attitude toward ad (A_{ad}), and purchase intention (PI).

Consistent with previous research, the length of commercials was positively associated with advertising effectiveness regardless of moods-generated by television programs. In terms of context-induced mood, however, the findings were not as significant as that of commercial length. The ANOVA analyses found significant mood effects from an individual measure of attitude toward ad where the ad placed in the positive television

context was found to be more effective than those in the negative-mood condition. For other variables, the findings were not significant, and they were somewhat contradictory. Similarly, interaction effects were only found in individual ad and brand. However, this study failed to detect significant interaction effects in overall evaluations. Based on the findings of this study, it can be concluded that commercial length effects are more salient in affecting ad performance than effects generated by program context. Nonetheless, considering two significant interactions and several near-significant interactions, more empirical research should follow to gain a better understanding of the effects of context-induced mood and commercial length on television advertising.

To my father, Joong Hwa Jeong, who spent his life time encouraging my success and who would have been the happiest of all at the completion of this dissertation.

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CHAPTER I

INTRODUCTION

Television is the most popularly used advertising medium. In terms of spending, television overall, including network, cable, syndication, and local television, is ranked first, with $67.9 billion spent in 2005, far higher than newspapers (2nd, $47.3 billion) and radio (3rd, $19.6 billion) (Trends in Advertising Volume, 2006).

As an advertising medium, television offers numerous advantages, such as audio-visual strength, great geographic coverage, superior target selections, and mass audience reach (Sissors & Baron, 2002). To secure these merits, considerable financial investment is necessary. For instance, the average price for a 30-second commercial in the 2007 Super Bowl was $2.6 million (Ahrens, 2007). Thus, to maximize these benefits and to minimize financial waste, advertising practitioners and researchers have paid attention to the effectiveness of television advertising.

Primarily, the effectiveness of television advertising has been investigated in two ways. Researchers have explored the context effects of television programs on advertising effectiveness. One line in this area has determined how ad evaluation is influenced by the emotional context of a television program, particularly by program-induced moods. According to previous studies on context-induced mood effects, because people's emotional excitation from a media context carries over in the processing of embedded ads, the evaluation of persuasive messages is influenced by the mood generated by the media context (Dougal & Rotello, 1999; Kaid & Chanslor, 1992; Krugman, 1983; Mattes & Cantor, 1982;

Murphy, Cunningham,& Wilcox, 1979; Pavelchak, Antil, & Munch, 1988; Singh & Hitchon, 1989).

Based on this idea, it is expected that the moods generated by different types of television programs would have different impacts on viewers' evaluations for embedded commercials. For instance, a positive mood induced by a humorous situation comedy and a negative mood generated after viewing a fearsome documentary are likely to influence the processing of commercials differently and, accordingly, will play a key role in determining the success of the commercial. As the number of program types has increased, the impact of program-induced moods on advertising performance has been actively examined using various television programs that lead to a distinct emotional status.

The second line of research has focused more on the characteristics of advertisement itself in examining television advertising success, such as the length of commercials, advertising clutter, and sequential order in a pod. Among them, the length of commercials is one variable that has been examined often. Research in this area has become popular since the introduction of shorter length formats. In the mid-1980s the J. Walter Thompson ad agency and ABC found that 15-second commercials achieved as much as 75% of the effectiveness of their 30-second counterparts. Since then, the use of 15-second commercials has continuously increased, accounting currently for almost 40% of network television advertising (TV Basics: Network TV, 2006).

As the use of shorter commercial length formats soared sharply, interest in the effects of commercial length on advertising effectiveness has also increased. In general, ad length is positively associated with the success of advertising. According to previous research in this area, longer persuasive messages are likely to contain more informational cues that facilitate

the advertising learning process and generate greater attention; thus, longer ads are more effective than shorter ones (Fabian, 1986; Pieters & Bijmolt, 1997; Rogers, 1995; Singh & Cole, 1993; Singh & Rothschild, 1983).

In short, television program-induced mood and commercial length are important variables in determining the effectiveness of television advertising. Previous studies have contributed to an understanding of television advertising. However, despite the prevalent use of these in industry practice, scant attention has been paid to examining these variables together and explaining how they interact to influence advertising effectiveness. Rather, the impacts of these variables have been investigated independently without considering possible interactions on the same framework.

Thus, it is still unclear whether commercial length and program-induced mood interact with each other in influencing the success of commercials. For instance, will a longer ad perform better in a positive mood-inducing program or in a negative mood-generating program? How about a shorter length ad? Will the effectiveness of a shorter commercial be higher in a positive or a negative mood-inducing program? Considering the direct and indirect impacts of these variables in practice, the findings acquired through separate analyses of individual variables seem to be of limited value in their practical application and as a basis for accurate predictions of the performance of television advertising in practice.

The primary goals of this study are to develop a better conceptual understanding of the roles of commercial length and program context-induced moods in evaluating embedded ads and to produce useful marketing implications, especially in advertising media planning. To achieve these goals, this study explores the relationship between two variables and the effectiveness of television advertising using a multidimensional approach that can capture the

direct and indirect impacts of two variables together, so that more generalizable findings with useful practical implications can be obtained.

CHAPTER II

LITERATURE REVIEW

Context Variables

> The real fact of the matter is that nobody reads ads. People read what interests them, and sometimes it's an ad (Gossage, 1995, p.2).

As Gossage (1995) implied, ads are not one of the main reasons why people choose to access media. In general, people are not interested in advertisements. They do not pay attention to ads, per se. In fact, they often attempt to avoid them. Nevertheless, they are often exposed to ads when they access television programs, magazine articles, newspaper stories and other media. Hence, considering that ads always accompany these forms of media contexts, it is assumed that ads are consumed together with the media contexts in which the ads are embedded.

For this reason, context effect on advertising effectiveness has been popularly examined for over 40 years. The general findings of this research indicate that the contexts immediately surround embedded advertisements significantly impact how audiences evaluate advertisements (Bryant & Comisky, 1978; Goldberg & Gorn, 1987; Krugman, 1983; Lord & Burnkrant, 1993; Lord & Lee, 1994; Soldow & Principe, 1981).

Context-Induced Mood

Previous studies have argued that the emotional content of media influences how people evaluate embedded ads (Dougal & Rotello, 1999; Murphy, Cunningham, & Wilcox, 1979; Pavelchak, Antil, & Munch, 1988). That is, people's physiological and emotional

excitation from the media context surrounding advertisements carries over to the ad evaluation (Kaid & Chanslor, 1992; Krugman, 1983; Mattes & Cantor, 1982; Singh & Hitchon, 1989).

A great deal of research has attempted to use context-induced moods to explain the effects of surrounding media on advertising effectiveness. In general, context-induced mood has been found to play a significant role in processing embedded persuasive messages (Aylesworth & MacKenzie, 1998; Batra & Stayman, 1990; Coulter, 1998; Goldberg & Gorn, 1987; Kamins, Marks, & Skinner, 1991; Mitchell, 2000).

Using dual-processing models such as the elaboration likelihood model (*ELM*, see Petty & Cacioppo, 1986) and the heuristic-systematic model (*HSM*, see Chaiken, 1980), researchers have attempted to explain how persuasive messages are processed by audiences in different moods induced by media contexts. According to the ELM and HSM, moods may influence the evaluation of a persuasive message in two fundamentally different ways depending on the moods that the media contexts generate. First, a mood can serve as a peripheral (or heuristic) persuasion cue when the mood generated by a particular media context is salient. For instance, when audiences are emotionally influenced by a certain television program, they are likely to be highly motivated when processing the program context, the source of the mood. In this condition, however, audiences are likely to process commercial information peripherally, according to their moods, because they do not associate the ads with the television show (Batra & Stayman, 1990). Surrounding media also influence the extent to which people centrally (systematically) process persuasive messages. In this mood state, because audiences are not emotionally affected by the additional televised stimuli, viewers are more likely to be motivated and engaged in active thinking for

commercial messages presented with the show (Aylesworth & MacKenzie, 1998; Hullett, 2005).

Research examining context-generated mood's influence on persuasive-message processing can be divided into two categories. One category examines how different moods influence information processing, and the other examines how moods impact information processing and the success of a persuasive message. In the former research stream, studies examining mood and persuasion research have found results that are consistent with social-psychology research. These studies have found that when people are in a negative mood, they are more likely to engage in a deeper and systematic information-processing strategy. In contrast, when people are in a positive mood, they are more likely to engage in a less effortful and more superficial information processing strategy using peripheral and heuristic cues (Batra & Stayman, 1990; Gardner & Hill, 1988; Mackie & Worth, 1989; Martin, 2003; Worth & Mackie, 1987).

The mood (feeling)-as-input hypothesis posits that moods can serve as a motivational input in processing context information (e.g., television programs), though moods do not have direct straightforward effects on behavior (Martin et al., 1993; Sanna, Parks, & Chang, 2003). People in a positive mood tend to engage in less elaboration and thus accept an existing condition because they are satisfied with the situation (Hullett, 2005; Schwarz, 2002). Therefore, people are less likely to be motivated to systematically process persuasive messages within embedded commercials or contemplate the current context that led them to a positive emotional status. As a result, they are inclined to engage in simple heuristic information processing for persuasive commercial messages. On the other hand, negative moods alert people to perceive that the current situation might require a problem-solving

response and thereby trigger analytic systematic thinking mechanisms (Aylesworth & MacKenzie, 1998; Hullett, 2005). Accordingly, people in negative moods are likely to be highly motivated to analyze context stimuli to prevent making erroneous decisions and find a solution at the same time.

Alternatively, Aylesworth & MacKenzie (1998) have argued that when people are in certain moods, additional information will be processed in an opposite manner from the way they process contextual media. For example, when people are in a negative mood induced by negative stimuli (e.g., a series of crime stories on a television news program), they are likely to engage in systematic processing to resolve emotional discomfort. In this condition, they are continuously motivated to process analytically and centrally the source of negative moods that causes emotional discomfort, even during the commercial breaks. Therefore, people in negative moods are likely to systematically process negative media (e.g., a series of crime stories on a television news program) to repair emotional damage and to retain a positive mood, while additional stimuli (e.g., commercials) are likely to be processed less systematically.

In contrast, when people are in a positive mood after viewing a positive-mood inducing program, they tend to engage in a mood-protection mechanism, using a more systematic strategy to process additional information during commercial breaks in order to maintain their positive mood. Aylesworth and MacKenzie (1998) confirmed this processing difference by discovering that commercials embedded in a positive-mood generating program were processed more systematically and led to more favorable attitudes toward the ads than ones embedded in a negative mood-inducing program.

The second research stream in mood effects has examined the structural relationship between a context-induced mood and advertising effectiveness. Two lines of research have been conducted actively in this area: mood-consistency effects and the mood congruency hypothesis. Research on mood consistency has found that the extent of mood's impact on advertising effectiveness is consistently contingent upon the tone of the context, not the tone of the advertisement. Goldberg and Gorn (1987) argued that a positive context induces greater perceptions of and more positive responses to an embedded advertisement. Thus, regardless of whether the advertisement itself is positively or negatively toned, people's evaluation of embedded ads directly reflects the tone of the context. Thus, ads placed in a more upbeat or positive context are consistently evaluated more favorably than ones placed in a negative context. Goldberg and Gorn (1987) found that positive contextual media induced greater perceived ad effectiveness and more positive responses to an embedded ad. Similarly, Aylesworth and MacKenzie (1998) found that audiences had more favorable attitudes toward commercials embedded in a positive-mood inducing program than they did for the same advertisements embedded in a program inducing a negative mood.

Other studies, however, have supported the mood-congruity hypothesis, in which ads are more favorably evaluated when context and ads elicit similar, congruent emotional feelings (Coulter, 1998; Kamins, Marks, & Skinner, 1991; Kuvaas & Kaufmann, 2004; Martin, 2003). According to this perspective, audiences are expected to more favorably evaluate a commercial that induces a happy mood when it is placed in a happy mood-generating program rather than a sad-mood inducing program. Similarly, audiences are expected to evaluate a sad commercial more favorably when it is surrounded by program that makes them sad rather than a program that makes them happy.

Context Involvement

Audiences' involvement in media surrounding an advertisement has also been found to have a significant impact on advertising effectiveness. Two research streams have been developed in this area. One stream examines the structural similarity between audiences' involvement in both media context and embedded ads. The other investigates how the degree of involvement in media context influences advertising effectiveness.

A number of researchers who explored the first research stream argued that ads are more effective when context and an embedded ad have the same cognitive or affective involvement structure. According to McClung, Park, and Sauer (1985) and Sharma (2000), audiences tend to maintain the same mode of information processing stimulated by the surrounding media when they process persuasive information contained in an embedded ad. Therefore, ads are more favorably evaluated when contextual media and an embedded ad have the same involvement structure. That is, when a cognitive ad (e.g., an information-packed automobile commercial) is embedded in a cognitive context (e.g., a serious documentary program) or when an affective ad (e.g., an image-based soda commercial) is embedded in an affective context (e.g., an entertaining program), the ad produces a higher degree of learning and recall for persuasive messages.

Interestingly, however, other studies forward a contrast-effect model where advertisements appear to fare better when placed within a contrasting cognitive or affective context (Celuch & Slama, 1993; Jablonski et al., 1996; Perry et al. 1997). Celuch and Slama (1993) found that cognitive ads were evaluated more favorably when they were embedded in an affective context than when they were embedded in a cognitive one. Similarly, Jablonski,

King, and Copeland (1996) found that affective (e.g., humorous and negative) political commercials were more effective and induced greater vote likelihood when they were embedded within the context of a more serious program that was a hedonically dissimilar context with the ads.

Several studies have examined how the involvement in surrounding media influences the effectiveness of embedded ads. One group of researchers found that ads are more effective when audiences' involvement in a context is high than when it is low (Krugman, 1983; Lord & Burnkrant, 1988a; Lord & Burnkrant, 1993; Lord & Lee, 1994; Murry, Lastovicka, & Singh, 1992). Lord and Burnkrant (1993) argued that people have a tendency to maintain the extent of involvement they formed while processing in a previous context when they are exposed to an additional stimulus such as a commercial. Thus, audiences' involvement in ads is likely to be consistent with their interest in the surrounding context. Accordingly, compared to low-context involvement, greater interest in processing media content carries over to produce higher involvement in processing embedded ads (Krugman, 1983) and thereby higher involvement in ads will facilitate the reception and processing of incoming commercial information to a greater extent (Lord & Burnkrant, 1988a). Consequently, high-involvement context is likely to be associated with both higher attention and more favorable evaluations for embedded ads than low involvement context (Lord & Burnkrant, 1993).

However, conflicting results have been also observed; other research has found that ad effectiveness is inversely related to the extent of audiences' involvement in surrounding media. That is, ads fare better when they are embedded in a low-involvement context than when they are embedded in a high-involvement context (Bello, Pitts, & Etzel, 1983; Bryant

& Comisky, 1978; Gunter, Furnham, & Beeson, 1997; Lord & Burnkrant, 1988b; Norris & Colman, 1992; Park & McClung, 1986; Pitts, 1986; Soldow & Principe, 1981). Researchers argued that a context of high involvement produces a greater need for closure and leads audiences to a more intense emotional state than does a low-involvement context (Bello, Pitts, & Etzel, 1983; Pitts, 1986). In this condition, additional stimuli such as television commercials are likely to be considered a disrupting stimulus, and, thus, cause a negative perception of advertised brands.

Interestingly, other researchers found an inverted-U shaped relationship between the degree of involvement in context and advertising effectiveness (McClung, Park, & Sauer, 1985; Tavassoli, Shultz, & Fitzsimons, 1995). According to previous studies, when viewers' involvement in a program increases from low to moderate levels, the effectiveness of an embedded ad increases. However, when audience involvement increases further from moderate to high, the trend reverses, and the effectiveness of the ad decreases.

Advertising Variables

Researchers have also examined the impact of advertising variables such as the commercial length, advertising clutter, and sequential order of commercials in a series of studies of the effectiveness of television advertising.

Commercial Length Effects

The most commonly used length formats in television advertising are 30 seconds and 15 seconds. According to the Television Bureau of Advertising, 30-second commercials, as a dominant platform, accounted for 54% of network and 76.8% of station television

advertisements in 2005, while 15-second ads, as an emerging option, comprised 37.4% and 13.3% of ads in those television broadcasts, respectively. Yet, depending upon advertisers' budgetary and creative strategies, different lengths formats (e.g., 45- and 60-second) are also occasionally employed, together comprising about 6.2% of network and 6.1% of station television ads during the same time period (TV Basics: Network TV, 2006; TV Basics: Station TV, 2006).

In the early days of television broadcasting, the standard length of commercials was 60 seconds, a carryover from radio days. This time span was replaced by 30 seconds soon after a new half-sized version was established in the mid-1960s. This time-compressing trend was accelerated again in 1983, when U.S. television networks allowed 15-second commercials as the form of a split 30-second format, advertising two separate brands within a single 30-second unit (Clagget, 1986; Singh, Linville, & Sukhdial, 1995). Since then, the use of 15-second commercials has increased drastically, particularly after the J. Walter Thompson agency and ABC's study (1985) in which 15-second commercials were found to achieve 79% of awareness and 75% of unaided recall of their 30-second counterparts (What we've learned, n.d.).

Another factor that boosted the use of shorter television advertisements was the relatively inexpensive price of a 15-second commercial. For instance, when a 15-second commercial was first introduced, its price was about a half of the price of 30-second one (Paskowski & Pfaff, 1986; Patzer, 1991; Ray & Webb, 1986). Therefore, along with its relatively strong performance, the cost-efficient nature of the 15-second ad drastically increased its use.

However, as demand for 15-second commercials soared, this cost advantage disappeared almost immediately. Networks and local stations began charging more than 50 percent of the price of 30-second commercials for 15-second ads, particularly for ads embedded in news programs (Alsop, 1987; Fabian, 1986). Since then, this pricing structure has been established as a standard in practice. For instance, the average price of 15-second commercials in Super Bowl XXXVII was about $1.2 million, while the average price of their 30-second counterparts was $2.1 million (Crawford, 2005). However, this uneven pricing structure that charges more than 50% of a longer version creates economic pressure for the advertisers who might otherwise employ splitting 30-second ads for their products (Clagget, 1986). The use of 15-second ads has been subject not only to financial pressures but also to creative pressures. Advertising practitioners argue that it is more difficult to produce creative and persuasive commercials that present all of a product's benefits within the shorter time period (Clagget, 1986; Dunst, 1993).

The length of a commercial message has been found to have a significant positive relationship with advertising effectiveness, measured by audiences' learning, attention, recall, and attitude toward commercials (Fabian, 1986; Mord & Gilson, 1985; Rethans, Swasy, & Marks, 1986; Rogers, 1995; Singh & Rothschild, 1983; Singh, Rothschild, & Churchill, 1988; Wheatley, 1968). A basic premise is that longer persuasive messages are likely to contain more informational cues that facilitate the advertising learning process and generate greater attention and recall than shorter messages (Fabian, 1986; Pieters & Bijmolt, 1997; Rogers, 1995; Singh & Cole, 1993; Singh & Rothschild, 1983).

Research investigating the impact of commercial length on advertising effectiveness can be categorized in several ways. First, a number of researchers have investigated the general impact of length based on the premise that a longer context permits persuasive information to be repeated more frequently within a single presentation. In this condition, because audiences are more likely to process the repeated information more thoroughly, repetition assists better encoding of the persuasive information. Accordingly, longer ads present learning advantages over shorter-length ads. Moreover, longer commercials provide audiences with more time to process commercial messages (Pechmann & Stewart, 1988; Rethans, Swasy, & Marks, 1986). Longer ads also offer more product-related cues that might help audiences engage in more systematic message processing, while shorter lengths limit the opportunity to elaborately process commercial messages (Wells, Leavitt, & McConville. 1971). In addition, shorter commercials generate too much noise or messages within their short time frame; therefore, viewers' cognitive responses to shorter advertisements are likely to be limited (Ray & Webb, 1986).

Therefore, longer commercials are considered, on the whole, to be more persuasive and effective compared to their shorter counterparts (Lonning, 1988; Mord & Gilson, 1985; Patzer, 1991; Ray & Webb, 1986; Wheatley, 1968). However, the limited influence of commercial length has also been found. According to Baumgartner, Sujan, and Padgett (1997), commercial length does not directly influence the performance of television advertising. Rather, commercial length indirectly influences audiences' judgments of advertised brands in combination with the contextual plot/story of commercial messages (e.g., neutral then peak of story, peak and maintain emotional excitement, and increase to peak then decrease).

The second stream of research on the effects of commercial length has focused on the efficiency of shorter commercials compared to longer ads. This area has been developed since the J. Walter Thompson/ABC (1985) study, which found that 15-second commercials were found to achieve more than 75% of the memory-based measures of 30-second ads. Since then, researchers have consistently confirmed that 15-second commercials are 50 to 90 percent as effective as their 30-second counterparts in increasing learning and attitudes toward advertised brands (Fabian, 1986; Patzer, 1991; Ray & Webb, 1986; Singh & Cole, 1993). For instance, in an experiment that compared 37 pairs of familiar and less familiar brands in 15- and 30-second commercials, Fabian (1986) reported that audiences' brand recall for 15-second and 30-second commercials was similar. Moreover, audiences were unable to identify and differentiate the lengths of 15- and 30-second commercials they viewed. Similarly, Ward, Oliva, and Reibstein (1994) found that pairs of brand-related 15-second commercials outperformed 30-second commercials in the measure of copy-point recall (e.g., selling points, brand name, and executional events).

Interestingly, however, another group of researchers found that one side-effect of the prevalent use of shorter length commercials was a cluttered advertising environment. As a result of high demand for shorter commercials, the number of network commercials has soared, and, accordingly, the advertising environment has rapidly become crowded. With this speedy development, researchers began examining the impact of advertising clutter when investigating the relationship between commercial length and advertising effectiveness. Researchers have argued that the excessive use of shorter ads leads a cluttered advertising environment, which is believed to negatively influence the overall effectiveness of television

advertising (Clagget, 1986; Lonning, 1988; McClellan, 2001; Mord & Gilson, 1985; Ray & Webb, 1986).

A group of researchers has argued that a cluttered advertising environment is partially responsible for the memory advantage of longer ads over shorter ones. According to previous studies, a cluttered advertising environment causes people to form a less favorable impression of shorter commercials and makes audiences perceive that they devote substantially more time to those commercials than they actually do (Mord & Gilson, 1985; Patzer, 1991). Mord and Gilson (1985) tested the effectiveness of several lengths of commercial breaks using 13 different 90-second pod configurations of 66 different commercial mixes of five 30-second and eight 15-second commercials with 5,600 adult respondents. They found that increasing the use of 15-second commercials in a pod decreased the effectiveness of 15-second commercials but increased the performance of 30-second ads in the same pod.

Clutter Effects

As discussed previously, the concept of advertising clutter is closely related to commercial length because time and space for advertising is fixed in a given time. For instance, a typical hour-long television program in the U.S. allocates approximately 16 minutes for commercial messages (Levin, 2005). Hence, when shorter commercials reduce the average commercial length, broadcasts must include additional commercials into their allotted time for advertisements. As a result, the number of commercials increases, and the advertising environment becomes cluttered.

Since network television allowed the use of 15-second commercials in the mid-1980s, propelled by the high demand of shorter commercials along with other factors (e.g., greater advertising time and channel options), the number of network television ads to which a general audience is exposed per week has surged from 4,075 to 8,175 (What we've learned, n.d.). Therefore, advertising environments became cluttered and led to concern for the effectiveness of advertising in a cramped advertising environment.

In general, ads in a commercial break compete with each other for audiences' attention and memory (Zhao, 1997). Thus, when the number of ads in a pod increases, the level of advertising competition becomes intense. In this condition, severe advertising competition is assumed to negatively influence the overall success of television advertising (Clagget, 1986; Lonning, 1988; Mord & Gilson, 1985; Ray & Webb, 1986; Zhao, 1997). Numerous researchers have endorsed this theory, arguing that a cramped advertising environment induces audiences to pay less attention to the commercials while increasing their confusion (Elliott & Speck, 1998; Ha & Litman, 1997; Patzer, 1991; Pieters & Bijmolt, 1997; Ray & Webb, 1986; Webb & Ray, 1979; Zhao, 1997).

Several studies have demonstrated that a cluttered advertising environment has a negative impact on advertising effectiveness. First, Ray and Webb (1986) detailed the devastating effect of advertising clutter on ad effectiveness using a psychological information-processing approach. According to the study, people can thoroughly process between three and five concepts at a time. Hence, when the number of commercials exceeds this threshold level, a general audience will experience difficulty processing and storing advertising messages. In this study, viewers were able to recall 26 percent of commercials correctly in the lowest clutter condition but only 12 percent in the highest clutter setting.

Similarly, Webb and Ray (1979) found that brand name recall also declined from 21 percent to 8 percent in a highly crowded condition. Johnson and Cobb-Walgren (1994) explored the relationship between audience age and the level of advertising clutter. They found that older viewers in particular are more negatively influenced by television clutter than younger viewers. Finally, Pieters, Warlop, and Wedel (2002) attempted to discover an efficient way to minimize the impact of advertising clutter. Using an infrared eye-tracking device, they found that audiences tended to spend more time with and memorize more accurately the brands that they found original and familiar than brands they found unoriginal and unfamiliar.

The second line of clutter-effect research has examined the type of clutter and its impact on advertising effectiveness. Kent (1993) found that competitive clutter produced more significantly negative affects on audiences' memory-based evaluations than noncompetitive clutter did. Here, competitive clutter involves placing the commercials of competing brands together within the same television program. However, in another study examining the impact of a cluttered environment on magazine advertising, competitiveness was not found to be a significant factor (Ha, 1996). Rather, the number of ads and intrusiveness (i.e., the extent to which commercials disrupt the flow of editorial content) were found to more negatively influence the success of advertising. Ha and Litman (1997) explored the longitudinal impact of clutter on the circulation and advertising revenues of 10 selected magazines: five news-oriented magazines, and five entertainment-oriented publications. They found that the negative impact of advertising clutter, measured by magazine circulation and advertising revenue returns, was greater for entertainment-oriented magazines than it was for news-oriented magazines.

Finally, the third line of research in this area has taken a broader scope in examining the impact of advertising clutter. Some researchers have argued that the use of shorter commercials would increase television advertising clutter and, eventually, decrease the effectiveness of television advertising overall, not only for shorter commercials, but longer ones, as well (Clagget, 1986; Lonning, 1988; McClellan, 2001; Mord & Gilson, 1985; Ray & Webb, 1986). Patzer (1991) even warned that severe advertising clutter would accelerate the decline of network television viewership. According to Patzer (1991), because the use of the 15-second commercial induces a less favorable attitude toward television programs in which too many such commercials are embedded, viewers are likely to have a negative impression not only toward advertisements but also toward television programs that allow such a cluttered environment. This finding contradicts the findings of a previous study which detected an insignificant impact of 15-second commercials on television viewing in the early era of 15-second commercials (ARS study cited in Fabian, 1986). This difference implies that audiences' perception of television programs and their evaluations of ads have changed considerably since the inception of 15-second lengths ads. Similarly, Danaher (1995) detected that rating points during commercial break (ADRATIO) dropped considerably as the number of ads in a break increased.

Serial-Order Effects

As the advertising environment has become cluttered, researchers' attention has naturally turned to the possible impact of commercial position within the cluttered pod, more specifically, the serial order of ads (e.g., first, second, and last). Here, serial position indicates

the ordinal character of commercials in a pod (Pieters & Bijmolt, 1997; Singh & Cole, 1993; Zhao, 1997).

Numerous studies have attempted to use psychological explanations to investigate the impact of the serial order of commercials on advertising effectiveness. General findings indicate that advertised products in the first and last position of a sequence are better remembered than products that appear in a middle of sequence (Brunel & Nelson, 2003; Pieters & Bijmolt, 1997). The tendency to remember the first item in a sequence is known as the primacy effect, and the tendency to remember the last item is known as the recency effect (Burke & Srull, 1988; Crano, 1977; Dean, 1980; Haugtvedt & Wegener, 1994; Terry, 2005).

According to previous research, primacy effects generally occur when respondents show greater critical thinking toward later information and engage in systematic, critical processing of information. Recency effects, on the other hand, are usually observed when respondents are not highly motivated to process incoming information and, therefore, process information peripherally (Brunel & Nelson 2003; Haugtvedt & Wegener, 1994). Both primacy and recency effects have been actively used to explain order effects in various areas, including the sense of taste (Dean, 1980), survey questionnaires (Becker, 1954; Blunch, 1984; Coney, 1977; Friedman & Friedman, 1994; Krosnick & Alwin, 1987; Landon, 1971), product tests (Day, 1969), magazine readership (Sekely & Blakney, 1994; Whipple & McManamon, 1992), and the relationships among verbal, auditory, and visual stimuli (Sharps, Price, & Bence, 1996).

Previous studies found that primacy and recency effects are moderated by factors such as audiences' emotional and cognitive status, motivation to process, message relevance, and gender dispositional difference. First, according to Crano (1977), a significant primacy

effect occurs when people are in a condition of low arousal. Using an attention-decrement approach, Crano (1977) explained that, because attention to stimuli over a complete list declines progressively, the significance of later stimuli is less heavily weighed than that of earlier stimuli during an interpreting process. Krosnick and Alwin (1987) examined the relationship between order effects and personal cognitive states and found that respondents whose cognitive sophistication was low were more significantly influenced by positions in a response list. Respondents with low cognitive sophistication, when asked to choose the three most important qualities for the description of a child, were more likely to choose the first three options on a list.

Haugtvedt and Wegener (1994) attempted to explain the relationship between message relevance (e.g., high vs. low personal relevance) and order effects (e.g., primacy vs. recency) using the Elaboration Likelihood Model. According to the study, the degree of personal elaboration significantly influences the type of order effect. They argued that when the personal relevance of a certain issue is high (i.e., there is a high motivation to process), the primacy effect dominates during the entire cognitive process; therefore, an initial message is likely to have a significant impact on final judgments and lead to better recall. But when personal relevance of the issue is low (i.e., low motivation to process), the recency effect occurs; thus, a later message will have a greater impact on final judgments and memory-based evaluations.

Brunel and Nelson (2003) investigated gender differences in serial-order effects. According to the study, people who process information systematically are more likely to be influenced by the primacy effect, while those who process information peripherally using serial order as a heuristic cue are likely to be affected by recency. They found that females

are more likely than males to process information systematically; therefore, in a low-involvement condition, females are more likely to be influenced by the primacy effect while males are likely to be more affected by the recency effect. However, in a high-involvement condition, both males and females systematically encode commercial messages equally.

A great deal of research has also attempted to differentiate the extent of primacy and recency effects. Burke and Srull (1988) argued that associative interference processes contribute to the primacy and recency effects on the recall and recognition of television commercials because later stimuli (e.g., competing commercials, other product information) inhibit viewers' ability to remember persuasive information. Terry (2005) tested the order effect in two ways. According to the study, when tests were given immediately after ads were shown, significant primacy and recency effects occurred for the ads placed in the first and last position in a list, respectively. However, when tests were conducted at the end of the session, the recency effect disappeared while the primacy effect persisted.

By analyzing Dutch television commercials from 1975 to 1992, Pieters and Bijmolt (1997) examined the possible influences of immediately preceding and successive stimuli on advertising performance. They found that the first commercial in a pod is prone only to retroactive inhibitions, a possible impact of succeeding stimuli (e.g., ads), and the last commercial is prone only to a proactive effect, a possible impact of preceding stimuli. Advertisements in the middle are affected by both proaction and retroaction effects. Nonetheless, Pieters and Bijmolt (1997) found one significant primacy effect: when the recall of brand names in the middle commercial was calculated at 100%, the recall rate for the first spot commercial was 129% while that for the last ad was 101%. This finding shows that although audiences recalled brands placed in the first and last spot better than they recalled

than those placed in the middle, the effect of the last-positioned ad was not as significant as the one positioned in the first.

Similarly, adapting a cognitive psychological explanation of serial-order effects, Zhao (1997) found that audiences are more likely to be influenced by proaction than retroaction inhibitions. Zhao (1997) argued that incoming information obtained from subsequent commercials would be initially stored as short-term memory and later transferred to long-term memory if the information survives competition from other ads. For instance, if only one commercial is shown during an ad break, viewers are able to devote themselves to processing the commercial message, even after the commercial break. However, if more than one ad is shown, information processing of the first ad is likely to be interrupted by subsequent ads, most significantly by the immediately successive stimuli (i.e., the second ad). Similarly, information in the second ad may not be processed entirely and thoroughly because of both the continuous processing of the previous commercial and the possible interruption of subsequent commercials. Thus, research strongly suggests that other stimuli, such as preceding and subsequent commercials, compete with each other for audiences' attention and memory and should prevent audiences from storing commercial information. Accordingly, preceding and succeeding ads negatively influence the transition of persuasive information from short-term to long-term memory as well as the retrieval of brand memory. Zhao (1997) found that brand memory is negatively influenced by both preceding and succeeding commercials while advertising liking is more negatively affected by preceding commercials.

Summary of Literature Review

An impressive body of empirical research has been conducted with the previously mentioned variables. This research has successfully contributed to a better understanding of the effectiveness of television advertising. It has also produced meaningful theoretical implications, as well as useful practical implications.

However, discrepancies in findings have been reported in almost every area of this research (for example, consistency vs. congruency in mood effects, high vs. low audience involvement in context involvement, consistent vs. contrast in involvement structure, and short vs. long advertising length in length effects). Moreover, the advertising environment has changed drastically from the time many of these early studies tested the impact of the aforementioned variables. Considering the fact that the television advertising environment evolves rapidly as technology advances, the findings of previous studies may already be outdated and, therefore, need to be retested to confirm their results, especially in the areas of length and program-induced mood effects.

In addition, the previous studies investigated the performance of advertising unidimensionally by testing a single or a limited number of variables. For example, context effect studies rarely included the advertising variables that have been already established as significant in television advertising effectiveness (e.g., the length of advertisements). Similarly, for those studies that explored the latter variables, few context-related variables have been included (e.g., context-induced moods). Thus, the complicated nature of television advertising could not be thoroughly analyzed. As a result, a new study that could explain the discrepancies among studies and generate more generalizable findings is suggested.

CHAPTER III

HYPOTHESES AND RESEARCH QUESTIONS

Commercial Length Effects

This study investigates whether the impact of commercial length on the effectiveness of television advertising is altered depending upon the mood generated by television programs. Hence, this study first examines the general impact of length on advertising effectiveness.

In general, longer ads are found to be more effective than their shorter counterparts. According to previous research on commercial length effects, more informational cues in a longer persuasive context facilitate the advertising learning process and generate greater attention to and a more favorable attitude toward the ads than those in shorter ads. In addition, product-related messages can be repeated more within a single showing and, at the same time, will be processed longer. Therefore, a significant impact of length on advertising effectiveness is expected, regardless of the moods generated by different types of television programs. This study proposes the following hypotheses:

H1: The length of advertisements will be positively associated with the effectiveness of television advertising.

H1a: Subjects will be more likely to recall the brands in longer commercials than those in shorter commercials.

H1b: Subjects will be more likely to recognize the brands in longer commercials than those in shorter commercials.

H1c: Subjects will evaluate longer commercials more favorably than shorter commercials.

H1d: Subjects will show higher intention to purchase for the brands in longer commercials than those in shorter commercials.

Context-Induced Mood Effects

General findings in mood and persuasion research indicate that people in a positive mood tend to accept an existing condition by engaging in less elaboration. Thus, audiences who view a positive television program are likely to engage in less effortful, more superficial information processing for the program context that placed them in a temporal positive mood. On the contrary, negative moods alert people to perceive that the current situation requires a problem-solving response and thereby activate a more analytic, systematic thinking mechanism. Accordingly, people in negative moods are likely to be highly motivated in analyzing media context stimuli to prevent making erroneous decisions and find a solution for their emotional discomfort.

Aylesworth and MacKenzie (1998) have argued that when people are in certain moods, additional stimuli, such as television commercials, are processed in an opposite manner from previous processing. For example, when people are in a negative mood because of a series of crime stories on a television news program, they are likely to engage in analytical processing to ease their emotional discomfort. In this condition, they are likely to continuously process news information, the source of the negative mood, even during a commercial break instead of processing commercial messages. Therefore, while people in a negative mood process information of the context (e.g., television program) more

systematically, additional stimuli (e.g., commercials) are less likely to be processed centrally due to the lack of motivation.

On the other hand, audiences who view a positive television program tend to engage in less effortful, more superficial information processing for the program context because they are already satisfied with the context. However, when they are exposed to persuasive messages during the break, audiences are likely to switch their information processing strategy to a more systematic and analytic way in order to maintain their satisfactory feelings. Accordingly, they become highly motivated in processing commercial information and engage in a more systematic processing strategy. Thus, ads placed in a positive-mood generating program are expected to be more thoroughly processed and, therefore, more effective than those placed in a negative program, regardless of their length. This study poses the following hypotheses:

H2: The commercials placed in a positive-mood generating program will be more effective than those placed in a negative-mood generating program.

H2a: Subjects will be more likely to recall the brands advertised in a positive-mood generating program than those promoted in a negative-mood generating program.

H2b: Subjects will be more likely to recognize the brands advertised in a positive-mood generating program than those promoted in a negative-mood generating program.

H2c: Subjects will evaluate commercials in a positive-mood generating program more favorably than those in a negative-mood generating program.

H2d: Subjects will show higher intention to purchase for the brands advertised in a positive-mood generating program than those promoted in a negative-mood generating program.

The Impact of Commercial Length in Different Moods

Previous research has contributed to a general understanding of the impacts of commercial length and context-induced mood on advertising effectiveness. However, little attention has been paid to the interaction between these two variables; thus, it is still unknown how the mood-induced by the television program influences the impact of commercial length on advertising effectiveness, and vice versa.

Based on previous research, in general, audiences who are in a positive mood due to a television program are likely to engage in a more systematic and effortful information processing strategy for additional stimuli, such as television commercials. In this information processing mode, central cues (e.g., product-related information) are considered more salient factors in evaluating the performance of advertising, rather than peripheral cues (the length of commercials). In contrast, when audiences are in a negative mood, unlike the deeper and systematic information processing mode in which they engaged for the program context, they are likely to activate a less effortful and more superficial information processing strategy for incoming ads. Thus, the mood generated by a negative television program tends to be salient during the ad break. Accordingly, due to their lack of motivation to process, viewers' evaluations of commercial messages are expected to be more significantly influenced by peripheral cues, such as the length of commercials, than central cues (e.g., amount of product-related information).

In short, it is theorized that audiences decide the information processing method for incoming stimuli using the mood generated by a television show as a motivational cue. Therefore, the impact of commercial length on advertising effectiveness is highly likely to be moderated by the moods induced by the television program. However, based on previous research, it is difficult to predict how the length of ads and the moods generated by the program will interact. For instance, when a shorter commercial is embedded within a negative mood-inducing program, its short length is less likely to play the role of beneficial peripheral cue that may increase attention to and facilitate learning of ads. When a shorter ad is shown during a positive mood-generating television context, because the amount of information in the ad is relatively less than that in a longer counterpart, the short length is less likely to be positively associated with the effectiveness of advertising.

When a longer ad appears in a negative mood program, the mood generated by a negative television program is likely to be more salient during the ad break than one induced by positive program. Thus, because viewers are cognitively occupied in resolving emotional discomfort during the ad break, they are likely to engage in heuristic information processing for advertising messages. Accordingly, viewers' evaluations for commercial messages are more significantly influenced by peripheral cues, such as the length of commercials. Therefore, a longer commercial is expected to be positively evaluated in a negative mood-inducing program. When audiences are in a positive mood, they are likely to be engaged in more systematic and central information processing for incoming ads. Thus, central cues, such as product-related information, are more likely to have a significant impact on the effectiveness of advertising, rather than peripheral cues (e.g., commercial length). Thus, the increased information in a longer ad will positively related to the success of advertising.

In sum, when a commercial is short, the ad is assumed to be ineffective in both negative and positive mood-inducing contexts due to its short, unnoticeable length (as a peripheral cue) and less amount of information (as a central cue), respectively. On the contrary, a longer ad is predicted to be effective in both conditions because of advantage of length (as a peripheral cue in a negative mood) and additional product information (as a central cue in a positive mood).

Nonetheless, it is still unclear which length type is more effective in which mood condition. In spite of its significant implication, the interaction between commercial length and mood-generated by television program has not been thoroughly investigated. Thus, the following questions are posed:

Research Question: How do the length of commercials and mood generated by a television program interact with each other?

RQ1: Are longer ads more effective in a positive mood condition or a negative mood condition?

RQ2: Are shorter ads more effective in a positive mood condition or a negative mood condition?

CHAPTER IV

METHOD

Overview

To test the impact of commercial length in different mood conditions, an experiment with a 2 (mood types: positive and negative) x 2 (length types: 15-second and 30-second) factorial design was conducted. The independent variables, the length of commercials and the moods generated in different television contexts, were manipulated for the purpose of this study. The dependent variable was advertising effectiveness measured by awareness-based, attitudinal, and behavioral evaluations of ads.

Participants

College students enrolled in a research pool at a large university participated in the experiment in return for course credit. A total of 120 subjects participated in the experiment. First, participants were randomly assigned into two groups. Each group viewed one of two television programs that led them to a distinct emotional state (positive and negative). Within each group, participants were randomly assigned to one of two commercial length conditions (15 seconds and 30 seconds).

Student samples might not best represent the general population of television viewers. The study might also be criticized for its convenience sampling approach. However, college students are one of the major television target audiences in the U.S. Thus, the findings of this research are expected to be generalizable. More importantly, at the stage of theory testing,

the finding of this study would produce meaningful implications regardless of participant sample.

Independent Variables

Advertising length: Advertising length was measured as the duration of a commercial in seconds. Two length formats were tested: 15-second and 30-second commercials, the two most popularly used lengths for current television advertising.

Context-induced moods: This study included the moods induced by television programs as another independent variable. Two context-induced moods were manipulated: positive and negative.

Dependent Variables

The dependent variable of this study is advertising effectiveness and is assessed by four measures frequently used in advertising effectiveness research: an attitudinal measure of an ad (attitude toward the ad, A_{ad}), a behavioral measure of a brand (purchase intention toward an advertised product, PI), and memory-based measures (brand recall and brand recognition). These variables were measured by post-experiment questionnaires (See Appendix A).

This study adopted the scale developed by Pelsmacker and Geuens (1999) in assessing *the attitude toward ad*. Seven descriptive adjective and phrase scales were used for this variable: persuasive, appealing, easy to forget, effective, believable, informative, and original. Assessment was made on seven integer scales ranging from strongly disagree (1) to strongly agree (7). Index scores were formed by averaging the values of these scales.

Purchase intension toward an advertised brand was measured using scales used in previous studies (Yi, 1990a; 1990b; 1993). First, this study asked "If you were looking to buy a *product type*, how likely is it that you would consider purchasing *brand name*?" Then, participants' responses were assessed on three seven-point bipolar scales anchored by likely-unlikely, possible-impossible, and probable-improbable. Again, index scores were formed by averaging the values of these items.

For *brand recall*, subjects were directly asked to list the advertised brands they could recall using open-ended questions. In order to analyze the data, participants' recall scores for three testing brands were combined to create a recall variable ranged from 0 (no recall) to 3 (all the brands recalled).

Brand recognition tests, on the other hand, were measured by closed-ended questionnaires. Each respondent was given a list of brand names. Participants were told that the brands listed might or might not have been advertised during the broadcast. As with brand recall, participants' recognition for brands was combined to construct a recognition variable that ranged from 0 (no recognition) to 3 (all the brands recognized).

In addition, in order to examine the overall evaluations of these ads, two additional indices were created by averaging the attitude toward all the ads and the purchase intention toward all the brands.

Experiment Design

The effects of two commercial lengths (15- and 30-second) as well as two different mood types (positive and negative) were tested in a 2x2 factorial design. The lengths of commercials were 15 seconds and 30 seconds, the most commonly used length platforms in

contemporary television advertising. In order to prevent the possible impact of personal preference for a certain version, commercials that have been shown in two length versions were selected. Thus, for 15-second commercials, a shorter version of 30-second ones were used.

Three commercial breaks were included in the experiment. The first break appeared five minutes after the program began. The second break was held in the middle of program, and the third break was shown five minutes before the program ended. In other words, commercial breaks were roughly placed in 5, 15, and 25 minutes in a 30-minute program sequence. This program setting is similar to current practice in television broadcasting, and, accordingly, is expected to disguise the true purpose of this study.

A total of nine commercials were used in the experiment, and they were distributed throughout three commercial breaks (three ads per break). Of the nine, three ads were investigated. These ads were examined in two length formats. In one set, the effectiveness of 15-second commercials was examined, and, in the other set, the effectiveness of 30-second ads was tested. In each set, to prevent a possible order impact (the primacy and recency effects), these ads were positioned in the middle of each commercial break. Hence, in this setting, the proaction and retroaction inhibitions were naturally equalized across all conditions. Moreover, to avoid a possible clutter effect, the number of ads in each commercial break was set equally to three. Six other commercials were placed in positions prior to and after each of three testing ads in each break.

In addition, in order to counterbalance the possible impact of the order of commercial breaks and impact from surrounding ads, three sessions were conducted in each condition. In each session, ads were rotated systematically so that each ad (including testing ads) appeared

in each break with any of six other ads. For instance, if a certain commercial was shown in the first break in one session, that ad would appear in the second and third breaks of other sessions.

The ad rotation was equally applied to the four conditions. Therefore, a total of 12 sessions were conducted (three sessions for each of the four cells). In each condition, commercial rotations were performed in the following way. When the order of ads in the first session is A, B, C in the first break, D, E, F in the second break, and G, H, I in the third break, in the second session, ads were shown in the order of D, H, F in the first, G, B, I in the second, and A, E, C in the third break, respectively. In the last session, ads were placed in the order of I, E, G in the first, C, H, A in the second, and F, B, D in the last break, respectively. Ad rotations were conducted with all ads; however, three test ads were kept in the middle of each break because the positions for testing ads should be consistent within and between all conditions. Commercial rotations are displayed in Table 1.

Table 1. Order of ads in each session

	First session [a]	Second session	Third session
First break	A, *B*, C	D, *H*, F	I, *E*, G
Second break	D, *E*, F	G, *B*, I	C, *H*, A
Third break	G, *H*, I	A, *E*, C	F, *B*, D

Note.
a: A, B, C, D, E, F, G, H, and I indicate the order of the commercials in the first session. Among nine ads, those in the middle of each commercial break will be tested (B, E, and H).

In addition, in order to equalize the possible impact from the length of surrounding ads, the length of the surrounding commercials (preceding and succeeding) was set to 30 seconds. The order of ads in each cell is displayed in Table 2.

Table 2. Commercial breaks and commercial order

	Order of ads	
	15-second	30-second
First break	30-*15*-30	30-*30*-30
Second break	30-*15*-30	30-*30*-30
Third break	30-*15*-30	30-*30*-30

Experimental Stimuli

Television Program Context - Participants' moods were manipulated in two ways: positive and negative. For a positive mood, a humorous sitcom, *Friends*, was used. The episode was titled *The One Where Ross Can't Flirt* (1999) and was about Ross' (one of the main characters) unsuccessful flirting with the pizza-delivery girl. The length of show was initially designed for a 30-minute broadcast that included commercials and promos. After deleting those commercials and promos, this study included nine commercials including three test ads. The total duration was 24:39 with three 15-second ads and 25:24 with three 30-second ads.

For a negative mood manipulation, a documentary, *World's Most Dangerous Gang* (2005), one episode of National Geographic Channel (NGC)'s *Explorer* series, was used. The documentary was about the origins and threats of a terrifying gang in the U.S. The show was originally designed for an hour-long program including commercials and promos. In order to balance the viewing condition with the positive condition, the show was edited into a 30-minute program. The duration subjects would view was reduced to 27:21 with three 15-second ads and 28:06 with three 30-second ads.

Adopting existing programs is expected to increase the likelihood of context-induced moods and lead subjects to a normal television viewing condition. In addition, to produce the professional quality for television programs and ads, this study utilized *Final-Cut* computer graphic-art technology.

Commercials - To lead subjects to a normal television-viewing condition, this study used several criteria to choose nine existing commercials. First, commercials should be appropriate for measuring the four dependent variables, especially purchase intention for brands. With this criterion, ads for general service or public service announcements (PSA) were excluded as possible options. Second, promoted products or services should be relevant to the research participants (college students) and used by both males and females. Third, to prevent the impact of other length types, the length of commercials should be equal to 30 seconds. For the shorter version of ads, the length was shortened to 15 seconds. Finally, to rule out the possible impact of competition between brands, only one commercial was selected for each type of product or service. For instance, if after one brand (e.g., Quizno) was selected from a fast-food category, other brands (e.g., McDonald, Subway, and Taco Bell) were excluded because perceived competition between these brands may influence advertising evaluations (Burke & Srull, 1988; Kent, 1993).

This study used commercials that appeared during Super Bowl games in 2002, 2003, and 2004 as a pool of ads because the Super Bowl provides a unique opportunity to examine audiences' evaluation of ads using *USA Today's Ad Meter*, the quantified evaluations of Super Bowl commercials. Using the *Meter*, this study selected the commercials whose rating scores were close to each other. In addition, selecting ads from three games would help to

minimize the variations of ad evaluations among selected brands, rather than choosing all nine ads from one year of a broadcast. Moreover, the inclusion of actually televised commercials is also expected to create a more natural television viewing environment than creating mock-ups.

In the 2002 Super Bowl broadcast, a total of 58 commercials appeared. Three ads with the highest scores were for Budweiser (9.11, 8.90, and 8.57 in score) followed by a Charles Schwab (8.36). The ads with lowest scores were for Taco Bell (5.00), Roche Pharmaceuticals (5.07), and Pepsi-Cola (5.20). The median value was 6.47. Among the ads whose scores were close to the median, products that were not relevant to subjects of this study were deleted as possibilities (e.g., Cadillac Escalade/CTS). In addition, this study excluded movie trailers (e.g., *Signs*, *Bad Company*, *XXX,* and *Hart's War*) and those for general services (e.g., HotJobs.com) and public service announcements (PSA, e.g., anti-smoking and anti-drug) because purchase intension was not measurable with these brands and differ from general products. This study selected five commercials: two test ads – Quizno (6.50), and M&M (7.77) - and three ads that would be placed in other positions – Budweiser (6.72), FedEx (6.07) and Levi's (8.12).

Fifty-six commercials were shown during the 2003 Super Bowl game broadcast. Similarly, two Budweiser ads were rated highest, with 8.99 and 8.85, respectively, followed by Sierra Mist (8.54). The ads with lowest scores were for Gallery Furniture (5.00), Yahoo HotJobs (5.08), and Walt Disney's The Osbournes DVD (5.09). The median value was 6.435. Among the ads whose scores are close to the median, products that were irrelevant to research participants, such as Cadillac CTS, Dodge Ram truck, and George Foreman's grill, were eliminated. This study also excluded ads for movies (e.g., *Bruce Almighty*, *Anger*

Management, *The Matrix: Reloaded*, and *The Hulk*) and general services (e.g., Visa Check Card, MasterCard, and ESPN) and public service announcements (PSA, e.g., anti-smoking and anti-drug). In addition, the commercials whose lengths were either longer (e.g., Levi's, 60 seconds; Pepsi-Twist, 45 seconds) or shorter (e.g., Trident, 15 seconds) than 30 seconds were also removed. A brand that was not currently available (e.g., AT&T mLife) was also eliminated. Finally, ads with well-known celebrities were not included due to their possible impact on advertising effectiveness, such as Gatorade (Michael Jordan) and Hanes (Michael Jordan and Jackie Chan). Thus, one brand, Sierra Mist (8.07), was chosen for this study as one of other ads.

In 2004, 60 commercials appeared during the Super Bowl broadcast. The median value was 6.715. The highest score in 2004 was for Bud Light (9.04) followed by ads for Pepsi (8.88), and Budweiser (8.83). The ads with lowest scores were for Levitra (4.08), Schick (5.16), and Cialis (5.29). Products that were not relevant to subjects, such as Cadillac SRX, Dodge Magnum, and Mitsubishi Gallant, were excluded first. Second, movie ads (e.g., *The Ladykillers*, *Troy*, *50 First Dates*, *Starsky & Hutch*, and *Miracle*) and those for general services (e.g., MasterCard, H&R Block) and public service announcements (anti-smoking and anti-drug) were also excluded. Finally, the commercial whose length was longer than 30 seconds (e.g., Staples, 60 seconds) was not considered. As a result, this study selected Charmin (7.41) as one of three test ads and America Online (6.79) and Chevrolet Aveo (7.04) as other ads.

Experimental Procedure

Upon arrival, participants were randomly assigned into one of two mood conditions (positive or negative). Then, again, they were randomly assigned to one of two commercial length conditions (15-second and 30-second). Thus, each participant was assigned to one of the conditions designed to examine the effects of two length formats in two program-generating moods. Finally, each condition was tested in three sessions with different commercial configurations.

Participants' moods were manipulated by showing different types of 30-minute-long television programs: *Friends* (a humorous sitcom) and *World's Most Dangerous Gang* (a shocking documentary). In each clip, three commercial breaks with three ads each were included. The three test ads were positioned in the middle of each break.

After all participants were seated, they were informed that they would be participating in a study of television-viewing behavior. They were told that they needed to provide anonymous evaluations of a television program at the end of the TV show. Then, participants were asked to watch the show as they normally would watch with other television shows at their home. Once they finished viewing the show, participants were asked to complete the questionnaire. After subjects completed the survey, they were thanked for their participation, debriefed, and dismissed.

CHAPTER V

ANAYSIS AND HYPOTHESES TESTS

Research Background

This study investigated the effects of commercial length and context-induced mood along with their interaction on television advertising effectiveness. This study included two independent variables, commercial-length formats (15-second and 30-second) and program-induced moods (positive and negative). The dependent variable was advertising effectiveness measured by brand recall, brand recognition, attitude toward the ad, and purchase intention.

This study hypothesized that longer ads would be more effective than their shorter counterparts and that ads placed in a positive mood program would be more effective than those embedded in a negative program. To examine these hypotheses, this study conducted a 2x2 factorial-design experiment. The data for this study were analyzed using a two-way analysis of variance (ANOVA) via the *Statistical Package for the Social Sciences* (SPSS) 13.

To test the first hypothesis, the main effect of commercial length on the effectiveness of ads between two length formats (15-second and 30-second) was assessed. The differences between two length formats in the four measures of advertising effectiveness across two mood conditions were assessed. For the second hypothesis, this study assessed the main effect of two types of program-induced moods (positive and negative) on the four measures of advertising effectiveness. Subjects' evaluations of testing ads were aggregated by mood types, and advertising effectiveness in two mood conditions was compared. Finally, this

study explored the interaction effects between context-induced moods and commercial lengths on the success of advertising.

Research Overview

This study randomly assigned 120 participants into four conditions (2 moods x 2 commercial length types). Then, participants were asked to complete a questionnaire regarding the television program and embedded ads. A total of 120 subjects participated in the experiment through 14 sessions. The subjects of this study were more slightly slanted to female (69, 57.5%) than male (51, 42.5%). The average age of participants was 20.27. In terms of television context-generated mood, 58 (48.3%) subjects were assigned to a positive mood condition while 62 (51.7.3%) subjects were assigned into a negative mood condition. In terms of a commercial length, 57 (47.5%) were assigned to a 15-second format while 63 (52.5%) were assigned to a 30-second format.

Overall, an approximately equal number of subjects were assigned into each condition and each session. Specifically, of the subjects assigned to the positive mood condition, 28 (48.3%) and 30 (51.7%) were assigned to 15-second and 30-second length formats, respectively. Each condition was tested with three sessions by rotating the order of ads. Thus, among the 28 subjects assigned to the 15-second condition, 9, 10, and 9 were respectively assigned to the first, second, and third sessions. In the 30-second condition, 10, 12, and 8 were respectively assigned to each of three sessions. In the same way, of the 62 subjects assigned into the negative mood condition, 29 (46.8%) and 33 (53.2%) were assigned to 15-second and 30-second formats, respectively. In the 15-second condition, 11, 8, and 10 were assigned to the first, second, and third sessions, respectively, while 11, 13, and 9

were respectively assigned to the first, second, and third sessions in the 30-second ad format. This subject distribution in each condition and session is displayed in Table 3.

Table 3. Participant distribution in each condition

			Context-induced mood		Total
			Positive	Negative	
Length of ads	15-second	Session 1	9	11	**57**
		Session 2	10	8	
		Session 3	9	10	
		Subtotal	**28**	**29**	
	30-second	Session 1	10	11	**63**
		Session 2	12	13	
		Session 3	8	9	
		Subtotal	**30**	**33**	
Total			**58**	**62**	**120**

Overall, 77 (64.2%) subjects could name the title of the experimental programs, and 76 (63.3%) reported that they had watched at least one episode of the programs. Among them, 23 (19.2%) had watched the episode shown in the experiment. About 85% (101) subjects reported that they enjoyed viewing the show during the experiment. This confirmed that the programs selected were of interest to college students.

Subjects assigned to the positive mood condition showed greater familiarity for the experimental program (*Friends*) than the program used in the negative mood condition (*Explorer*). All subjects (58) were able to recall the name of the show, and almost all (57) reported that they had watched at least one episode of this program. Among them, about a quarter of subjects (15) reported they had watched the episode used in this experiment before.

On the contrary, among 62 subjects assigned to the negative mood condition, only 19 (30.6%) could name the show (*Explorer*). The same number of subjects (19) reported they had watched any episode of this program at least once, and eight subjects had watched the episode shown in the experiment before.

Manipulation Check **-** To assess audiences' moods, this study used a scale developed by Kamins, Marks, and Skinner (1991). Participants' moods were assessed on four seven-point bipolar scales anchored by adjectives: happy-sad, pleasant-unpleasant, good-bad, and cheerful-regretful. In order to screen subjects' insincere responses, one of the scales was reversed (bad-good) in the questionnaire. These four items were aggregated to construct a composite index. The reliability of this scale assessed by the Cronbach's alpha coefficient indicated high internal consistency with .976.

An examination of post-experiment questionnaires revealed the successful manipulation of program-induced moods. On a seven-point bipolar scale (1-7), subjects rated *Friends* more positively (M=6.29) and *Explorer* more negatively (M=2.72), F (1, 115) = 472.51, $p < .001$.

Internal Consistence Check - Composite indices were also constructed for two dependent variables: attitude toward the ad (A_{ad}), and purchase intention (PI). An index for attitude toward advertising was created with seven descriptive adjective and phrase scales: persuasive, appealing, easy to forget, effective, believable, informative, and original. The Cronbach's alpha coefficients indicated that the measure of subjects' attitude toward the three test commercials was consistent and reliable. Cronbach's alpha coefficients for assessing the internal consistency of the attitude toward each brand was .799 (Quizno), .729 (M&M), and .797 (Charmin). Similarly, an index for purchase intention was created with

three seven-point bipolar scales anchored by likely-unlikely, possible-impossible, and probable-improbable. Cronbach's alpha coefficients indicated that the measure of purchase intention was internally consistent: Quizno (.893), M&M (.915), and Charmin (.953).

Data Screening and Assumption Check

It should be noted that M&M, one of three brands, was accidentally missed in the choices in a brand recognition question due to the experimenter's error. A total of 32 subjects' responses for the recognition of M&M brand were missed overall: 10 in the session 1 of the positive and 30-second condition, 11 in the session 1 of the negative and 30-second condition, and 11 in the session 1 of the negative and 15-second condition. For these missing values, this study created an additional variable by replacing the missing values with means of two other brands (Quizno and Charmin). Accordingly, brand recognition was measured in two ways, one with missing values and one with mean replacements.

Prior to conducting data analyses, the data were carefully screened to check whether they were entered accurately, and all the assumptions for conducting an ANOVA were met. First, a visual inspection of a data file was performed to see if all the data were accurately entered into the computer file from the questionnaire. Because the order of some measures was inverted to screen for subjects' insincere responses, data recoding was also conducted. In this process, five missing values were detected in attitude toward ad and purchase intention indices. Among them, for two items in the attitude toward Quizno and Charmin ads in which subjects skipped one of the seven items, mean replacements were conducted with six other items in the indices. As a result, the number of entries containing missing values was reduced to three: one in the attitude toward the Quizno ad, one in purchase intention for Quizno, one

in the attitude toward the M&M ad, two in purchase intention for M&M, two each in the attitude toward the Charmin ad and purchase intention, and two each in the overall attitude toward the three ads and overall purchase intention for three brands. For these missing data, systematic missing patterns that might significantly affect the generalizability of findings were not found. Hence, because they contained information for other variables, these responses were included in the analysis. This study later conducted an additional test after deleting three entries with missing values using a listwise option to see if the findings would be different from ones including these values.

Then, this study screened the overall dataset for problems such as out-of-range values, reasonable means, standard deviations, outliers, and non-linear relationships. The results showed that the ranges between maximum and minimum values of most cases had fallen within the acceptable range of ±2~3 standard deviations from the mean, except for brand recognition. Then, using graphical methods such as histograms and box plots, this study screened for extreme values. In this process, several possible outliers were detected. For these values, the experimenter first checked to determine whether the data were entered correctly and values for missing items were coded accurately. Then, the experimenter investigated the nature of data collection and checked whether outliers were on a continuum with other values.

Regarding brand recall, notably, only one participant recalled all three brands correctly. However, in the brand-recognition measure, two subjects did not recognize any brand. Although these values were significantly different from other values in each category, it was decided to keep these values in the data analyses because of the wide differences in memory from person to person, In the attitude toward the Quizno ad, two cases with values

of 7.00 and 1.14 were identified as outliers. The next values after these values were 6.14 and 1.71, respectively. In the attitude toward M&M and Charmin ads, significant outliers were not detected. For the overall attitude toward the ad, one case was identified with an extremely high value (6.14). In the purchase-intention for M&M, several cases were recognized as possible outliers. Finally, when combining all three brands for a purchase intention measure, one case with 1.33 was identified as an outlier. The next-lowest value was 3.00.

In spite of their conspicuous extreme values, this study did not transform the data because the findings tend to be difficult to interpret after transformation, even although transformations would reduce the influence of outliers and produce reasonable normality (Tabachnick & Fidell, 2001). Additionally, some may argue that recall and recognition indices created with the sum of accurate answers might not be true ratio data because of four levels of a nominal range (0 to 3). If this is the case, data cannot be transformed.

Thus, it was decided to keep these values in analyzing the data because they were on a continuum with others and contained data for other variables that were not extreme. In addition, the results indicated that most data were located within a reasonable standard error range with regard to skewness and kurtosis statistics. Nonetheless, in order to see if findings would differ from the initial findings obtained with these outliers, this study conducted a retest without four possible outliers: two in attitude toward the Quizno ad (7.00 and 1.14), one in purchase intention for M&M (1.33), and one in purchase intention for combined brands (1.33). These data would be deleted using the listwise option.

Then, the homogeneity of variance was checked. The *Levene* tests were performed to see if the population variances among the dependent variables were the same across all variables. As shown in Table 4, for most dependent variables, the distributions of errors

within the groups had equal variances. This assumption was not achieved for four variables: brand recognition, F (3, 84) = 11.143, $p < .05$, brand recognition with mean replacements, F (3, 116) = 20.068, $p < .05$, purchase intention for Charmin (PI), F (3, 114) = 3.412, $p < .05$, and purchase intention for all the brands (overall PI), F (3, 114) = 2.724, $p < .05$. However, because each cell had an approximately equal number of participants, it is expected that ANOVA should be robust to possible heterogeneity of variance.

Table 4. Test of homogeneity of variances

	F	df1	df2	Sig.
Brand Recall	.537	3	116	.658
Brand Recognition	11.143	3	84	<.001
Brand Recognition with mean replacements	20.068	3	116	<.001
Quizno A_{ad}	2.344	3	115	.077
M&M A_{ad}	.801	3	115	.496
Charmin A_{ad}	.116	3	114	.950
Overall A_{ad}	2.048	3	114	.111
Quizno PI	1.254	3	115	.294
M&M PI	.927	3	114	.430
Charmin PI	3.412	3	114	.020
Overall PI	2.724	3	114	.048

Finally, in this study, research subjects were randomly assigned into only one of four conditions. Thus, this study achieved the independent and random assignment assumption for ANOVA analysis. Moreover, by assigning about 30 participants into each condition (more

than five, the minimum number for ANOVA analysis), this study would be expected to yield accurate and generalizable findings.

Descriptive Statistics: Overall

Composite indices were created for dependent variables to obtain a collective understanding. As shown in Table 5, the results of descriptive statistics indicated that the overall evaluations for purchase intention were higher than those for attitude toward ads. The mean score for Charmin was the highest, with 4.02 and a range of 1.43 to 6.71, followed by Quizno (3.96, 1.14-7.00) and M&M (3.75, 1.43-5.86). The overall mean for the ads was 3.91. The univariate analysis showed that the highest score in attitude toward ad was 6.14 while the lowest attitude score was 1.95. The range of scores in purchase intention toward an advertised product also varied. The mean score for M&M was the highest with 5.14, followed by Quizno (5.10) and Charmin (4.96). The overall mean for three brands was 5.07. The univariate analysis showed that the highest purchase intention score was 6.78 while the lowest score was less than 1.50.

Brand recall and brand recognition were created with the sum of respondents' accurate recall and recognition for the three testing brands. The mean of participants' recall for three brands was .74, and ranged from 0 (no recall) to 3 (all three brands recalled). In general, the recognition of brands was significantly higher for brand recognition than recall. The mean of brand recognition was 2.82 with 32 missing items and 2.78 with mean replacements. They also ranged from 0 (no recognition) to 3 (all three brands recognized).

Table 5. Descriptive statistics of major variables: Overall (n=120)

	Min	Max	Mean	S.D.	Skewness	Kurtosis
Brand Recall (120)	.00	3.00	.74	.74	.58	-.51
Brand Recognition (88)	.00	3.00	2.82	.49	-3.35	13.45
Brand Recognition with mean replacements (120)	.00	3.00	2.78	.57	-2.94	9.40
Quizno A_{ad} (119)	1.14	7.00	3.96	1.01	.074	.249
M&M A_{ad} (119)	1.43	5.86	3.73	.84	-.049	-.086
Charmin A_{ad} (118)	1.43	6.71	4.02	1.06	.055	-.047
Overall A_{ad} (118)	1.95	6.14	3.91	.70	.147	.44
Quizno PI (119)	1.00	7.00	5.10	1.37	-.72	.25
M&M PI (118)	1.33	7.00	5.14	1.34	-.74	.22
Charmin PI (118)	1.00	7.00	4.96	1.39	-.98	.79
Overall PI (118)	1.33	6.78	5.07	.92	-.67	1.32

Descriptive Statistics: Each Condition

After screening the overall data, this study checked the descriptive statistics of each condition to see whether the assumptions of ANOVA analysis were also met in each condition. Using the split-file option and Explore procedure, this study inspected the descriptive statistics of each cell, such as mean, standard deviation, minimum and maximum values, skewness, and kurtosis. In this process, whether the measures of skewness and kurtosis fall within the acceptable range of ±2 was checked.

Positive Mood & 15-Second Condition - In the condition of the positive mood and 15-second length commercial length condition, 28 subjects were included: 9 in session 1, 10 in session 2, and 9 in session 3. As shown in Table 6, the results of descriptive statistics indicated that brand recall had a mean value of .64 while that of brand recognition was 2.68. For attitude toward the ads, the mean for Charmin was the highest, with 3.85 and a range of

1.43 to 6.00, followed by Quizno (3.70, 1.14-5.71) and M&M (3.65, 1.43-4.71). The overall mean for attitude toward the three brands was 3.75. The univariate analysis showed that the highest attitude toward overall ads was 4.62 while the lowest score was 1.95. The scores of purchase intention also ranged from 1 to 7. The mean for M&M was the highest, with 5.11 (2-7), followed by Quizno (4.85, 1-7) and Charmin (4.47, 1-7). The overall mean for purchase intention for three brands was 4.83 with a range of 1.33 to 6.44.

The visual inspections revealed that the overall distributions of data appeared to be normal in this condition, though the graphs revealed that brand recall was negatively skewed while that of brand recognition was positively skewed. This implies that when subjects were asked to provide the names of brands they saw during the experiment without offering choices, the ads they could list were generally few. On the other hand, when the choices were given, they could recognize most brands that appeared in the show. The ranges between maximum and minimum values of most cases fell within the acceptable range of ±2 standard deviations from the mean, except for brand recognition.

After conducting visual inspections for the data, this study checked whether the data were normally distributed. The Q-Q plots and detrended normal probability plots with studentized residuals of each variable were used to visualize the distributions of data. The Q-Q plots showed that the residuals appeared to be normally distributed in general, except for brand recall and recognition. On the contrary, in the detrended normal probability plots, studentized residuals were spread out without forming specific patterns. This study also measured the ratio of skewness and kurtosis of residuals to their standard errors with regard to the normality of data. The ratio measures of residuals' skewness and kurtosis to their standard errors showed that ratios fell mostly within the acceptable range of ±2, except for

brand recognition and recognition with mean replacements where both skewness and kurtosis ratios were out of range. Despite a non-normal distribution of brand recognition, this study decided to include the recognition measure in the analyses because ANOVA should be robust to nonnormality with a reasonable number of subjects in this condition (n=28).

Table 6. Descriptive statistics: Positive mood & 15-second (n=28)

	Min	Max	Mean	S.D.	Skewness	Kurtosis
Brand Recall (28)	.00	2.00	.64	.62	.41	-.55
Brand Recognition (28)	.00	3.00	2.68	.72	-2.58	6.89
Brand Recognition with mean replacements (28)	.00	3.00	2.68	.72	-2.58	6.89
Quizno A_{ad} (27)	1.14	5.71	3.70	1.16	-.21	-.11
M&M A_{ad} (27)	1.43	4.71	3.65	.77	-.90	1.38
Charmin A_{ad} (26)	1.43	6.00	3.85	1.08	-.44	.02
Overall A_{ad} (26)	1.95	4.62	3.75	.59	-1.07	2.21
Quizno PI (28)	1.00	7.00	4.85	1.59	-.76	.04
M&M PI (27)	2.00	7.00	5.11	1.44	-1.10	.44
Charmin PI (27)	1.00	7.00	4.47	1.81	-.97	-.22
Overall PI (27)	1.33	6.44	4.83	1.21	-.91	1.22

Positive Mood & 30-Second Condition - In the positive mood and 30-second length condition, 30 subjects were randomly assigned to three sessions, 10 in session 1, 12 in session 2, and 8 in session 3, respectively. As shown in Table 7, the descriptive statistics showed that brand recall had a mean value of .73 while the means of brand recognition with and without mean replacements were equal to 3.00. For attitude toward the ads, the mean for Charmin was the highest, with 4.57 (2.71 to 6.43), followed by Quizno (4.17, 2.14-6.14) and

M&M (4.13, 2.57-5.86). The mean of the overall attitude toward the three ads was 4.29 (2.86-6.14). For purchase intention measures, the mean for Charmin was the highest, with 5.56 (3.67-7), followed by Quizno (5.51, 2.33-7) and M&M (5.28, 1.33-7). The mean for the purchase intention for the three brands was 5.45 (4.11- 6.78).

The visual inspections revealed that the overall distributions of data in this condition were normal, except for two brand recognition measures where all subjects recognized all three brands. Subjects' attitude toward the ads was reasonably normally distributed for each ad and overall ads. On the other hand, the distribution of purchase intention measure was somewhat positively skewed for each brand. The ranges between maximum and minimum values of studentized residuals fell within the acceptable range of ±2 standard deviations from the mean, except for brand recognition. The Q-Q plots also showed that the residuals of each variable appeared to be normally distributed. On the contrary, in the detrended normal probability plots, studentized residuals were spread out without forming specific patterns. The measure of the ratio of residuals' skewness and kurtosis to their standard errors revealed that ratios fell into the statistically satisfactory range of ±2, except for brand recognition measures.

Table 7. Descriptive statistics: Positive mood & 30-second (n=30)

	Min	Max	Mean	S.D.	Skewness	Kurtosis
Brand Recall (30)	.00	2.00	.73	.74	.48	-.97
Brand Recognition (20)	3.00	3.00	3.00	.00	--	--
Brand Recognition with mean replacements (30)	3.00	3.00	3.00	.00	--	--
Quizno A_{ad} (30)	2.14	6.14	4.17	1.08	.05	-.99
M&M A_{ad} (30)	2.57	5.86	4.13	.90	.04	-.90
Charmin A_{ad} (30)	2.71	6.43	4.57	.96	.19	-.50
Overall A_{ad} (30)	2.86	6.14	4.29	.79	-.07	-.40
Quizno PI (30)	2.33	7.00	5.51	1.16	-.89	.64
M&M PI (30)	1.33	7.00	5.28	1.34	-.72	1.06
Charmin PI (30)	3.67	7.00	5.56	1.00	-.25	-.82
Overall PI (30)	4.11	6.78	5.45	.72	-.26	-.57

Negative Mood & 15-Second Condition - Twenty-nine subjects were included in the negative mood and 15-second commercial length condition: 11 in session 1, 8 in session 2, and 10 in session 3. Table 8 shows the descriptive statistics in this condition. The mean of brand recall was .55 while that of brand recognition was 2.72 and 2.52 without and with missing replacements, respectively. For attitude toward the ads, the mean score for Charmin was the highest, with 3.80 (2.14-5.86), followed by Quizno (3.70, 2.00-4.86) and M&M (3.70, 2.14-5.29). The overall attitude toward the three ads was 3.74 (2.67-4.86). For purchase intention, the mean of M&M was the highest, with 4.98 (1.67-7), followed by Charmin (4.87, 2.33-7) and Quizno (4.86, 3-7). The overall purchase intention for the three brands was 4.90 (3.67-6.67).

As in the positive mood conditions, the visual inspections revealed that brand recall was negatively skewed, whereas brand recognition was positively skewed. For attitudinal and behavioral measurements, subjects' evaluations were mostly normally distributed for each brand and overall brands. The ranges between maximum and minimum values of residuals fell within the range of ±2 standard deviations from the mean, with the exception of brand recognition with mean replacements, where the minimum value was just outside -3 standard deviations from the mean. The Q-Q plots also showed that the residuals of each variable appeared to be normally distributed, while studentized residuals were spread out in the detrended normal probability plots. The ratio measures of skewness and kurtosis of residuals to their standard errors revealed that ratios fell into acceptable range of ±2, except for brand recognition with mean replacements.

Table 8. Descriptive statistics: Negative mood & 15-second (n=29)

	Min	Max	Mean	S.D.	Skewness	Kurtosis
Brand Recall (29)	.00	3.00	.55	.78	1.49	2.14
Brand Recognition (18)	2.00	3.00	2.72	.46	-1.09	-.94
Brand Recognition with mean replacements (29)	.00	3.00	2.52	.76	-1.63	2.68
Quizno A_{ad} (29)	2.00	4.86	3.70	.66	-.33	.06
M&M A_{ad} (29)	2.14	5.29	3.70	.77	-.24	-.41
Charmin A_{ad} (29)	2.14	5.86	3.80	.96	.24	-.32
Overall A_{ad} (29)	2.67	4.86	3.74	.56	.19	-.38
Quizno PI (29)	3.00	7.00	4.86	1.15	.14	-1.02
M&M PI (29)	1.67	7.00	4.98	1.22	-.63	1.15
Char PI (29)	2.33	7.00	4.87	1.23	-.21	-.62
Overall PI (29)	3.67	6.67	4.90	.80	.51	-.46

Negative Mood & 30-Second Condition - In the negative mood and 30-second length condition, 33 subjects were assigned into three sessions, 11 in session 1, 13 in session 2, and 9 in session 3, respectively. As shown in Table 9, the mean of brand recall was 1.00, while those of brand recognition were 2.91 and 2.89 without and with mean replacements, respectively. For attitude toward the ads, the mean score for Quizno was the highest, with 4.19 and a range of 2.00 to 7.00, followed by Charmin (3.84, 1.86-6.71) and M&M (3.46, 1.71-5.14). The overall attitude toward the three commercials was 3.83 (2.05-5.48). The scores of purchase intention for each brand also varied. The mean score for M&M was the highest, with 5.19 (2-7), followed by Quizno (5.14, 1-7) and Charmin (4.89, 2-7). The overall purchase intention for the three brands was 5.07 (3.00-6.67).

As in other conditions, the visual inspection of the histogram revealed that the distribution of brand recall was negatively skewed, whereas that of brand recognition was positively skewed. Subjects' attitude toward the ads was normally distributed for each brand, as was the overall attitude toward the three ads. On the other hand, the distributions of purchase intention for each brand and overall for the three brands exhibited a slightly positive skew. Nonetheless, the skewness and kurtosis ratio measures revealed that ratios fell within a statistically acceptable range of ±2, except for two measures of brand recognition. In addition, the ranges between maximum and minimum values of residuals also fell within ±2 standard deviations from the mean. Finally, the Q-Q plots and the detrended normal probability plots also showed that the residuals of each variable appeared to be normally distributed.

Table 9. Descriptive statistics: Negative mood & 30-second (n=33)

	Min	Max	Mean	S.D.	Skewness	Kurtosis
Brand Recall (33)	.00	.67	1.00	.75	.00	-1.16
Brand Recognition (22)	2.00	3.00	2.91	.29	-3.06	8.09
Brand Recognition with mean replacements (33)	1.50	3.00	2.89	.35	-3.23	9.67
Quizno A_{ad} (33)	2.00	7.00	4.19	1.01	.30	.92
M&M A_{ad} (33)	1.71	5.14	3.46	.78	.03	-.14
Charmin A_{ad} (33)	1.86	6.71	3.84	1.07	.35	.66
Overall A_{ad} (33)	2.05	5.48	3.83	.72	.11	.76
Quizno PI (32)	1.00	7.00	5.14	1.47	-.92	.82
M&M PI (32)	2.00	7.00	5.19	1.40	-.65	-.55
Charmin PI (32)	2.00	7.00	4.89	1.31	-.86	.02
Overall PI (32)	3.00	6.67	5.07	.82	-.41	.14

In sum, as Table 10 shows, longer ads elicited more favorable evaluations than their shorter counterparts in most measures regardless of the mood types, except for M&M A_{ad}, where the shorter ad (*M*=3.70) led a slightly highly evaluation than the longer one (*M*=3.46). In the 15-second condition, recall was higher in the positive condition (*P*, positive, .64 – *N*, negative, .55) while brand recognition was slightly higher in the negative condition (*P*, 2.68 – *N*, 2.72). When missing values were replaced with the means of other brands, subjects recognized more brands in the positive condition (*P*, 2.68 – *N*, 2.52). In the attitude toward the ad category, attitude toward the M&M ad was slightly more favorable in the negative mood condition (*P*, 3.65 – *N*, 3.70) while attitude toward the Charmin ad was slightly more favorable in the positive mood (*P*, 3.85 – *N*, 3.80). For attitude toward the Quizno ad, subjects' evaluations were the same (3.70) in both conditions. For the overall attitude toward

ads, subjects' evaluations were similar between two mood types (*P*, 3.75 – *N*, 3.74). In the purchase intention category, purchase intention toward Quizno was almost the same in two mood conditions (*P*, 4.85 – *N*, 4.86). However, purchase intention for the M&M brand was higher in the positive mood condition (*P*, 5.11 – *N*, 4.98) while that for Charmin was higher in the negative mood condition (*P*, 4.47 – *N*, 4.87). Overall, purchase intention for the three ads was slightly higher in the negative mood than in the positive mood condition (*P*, 4.83 – *N*, 4.90).

Despite some individual variations in different measures, in general, both the negative and positive mood conditions elicited similar evaluations for most variables in the 15-second length condition. However, longer ads seemed to elicit more favorable evaluations in the positive mood condition than in the negative mood condition, except for brand recall, where subjects recalled more brands embedded in the negative mood-inducing program (*P*, .73 – *N*, 1.00). In terms of context-induced mood difference, as implied, ads and brands were more favorably evaluated in the positive mood condition than in the negative mood condition only when 30-second ads were shown. Moreover, the mean differences between two length types were similar and smaller in the negative mood condition.

Table 10. Descriptive statistics: Each condition comparison

	Positive Mood				Negative Mood			
	15-Second		30-Second		15-Second		30-Second	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Brand Recall (120)	.64	.62	.73	.74	.55	.78	1.00	.75
Brand Recognition (88)	2.68	.72	3.00	.00	2.72	.46	2.91	.29
Brand Recognition with mean replacements (120)	2.68	.72	3.00	.00	2.52	.76	2.89	.35
Quizno A_{ad} (119)	3.70	1.16	4.17	1.08	3.70	.66	4.19	1.01
M&M A_{ad} (119)	3.65	.77	4.13	.90	3.70	.77	3.46	.78
Charmin A_{ad} (118)	3.85	1.08	4.57	.96	3.80	.96	3.84	1.07
Overall A_{ad} (118)	3.75	.59	4.29	.79	3.74	.56	3.83	.72
Quizno PI (119)	4.85	1.59	5.51	1.16	4.86	1.15	5.14	1.47
M&M PI (118)	5.11	1.44	5.28	1.34	4.98	1.22	5.19	1.40
Charmin PI (118)	4.47	1.81	5.56	1.00	4.87	1.23	4.89	1.31
Overall PI (118)	4.83	1.21	5.45	.72	4.90	.80	5.07	.82

Descriptive Statistics: Each Session

This study also inspected the descriptive statistics of three sessions in each condition and examined whether there were statistical different among sessions with regard to the four dependent variables. This process is necessary because this study rotated the positions of ads during the experiment to prevent a possible order impact (e.g., primacy and recency effects). Thus, the significant difference among sessions may indicate that the results of this study might be influenced by untested factors such as particular incidents unique to an individual session. Using the split-file option and Explore procedure, again, this study inspected descriptive statistics, such as mean, standard deviation, skewness, and kurtosis, for each cell. Then, the data were screened for problems, such as out-of-range values, reasonable means,

standard deviations, outliers, and non-linear relationships. After checking the assumptions, a one-way ANOVA was conducted to examine whether the measures were significantly different among three sessions. If significant differences were found, *Tukey's HSD* post-hoc tests were followed to detect which measures are statistically different in which sessions.

Positive Mood & 15-Second Condition - In the positive mood and 15-second length condition, the descriptive statistics show somewhat varied means and standard deviations among variables. Nevertheless, an ANOVA test revealed no statistically significant differences among sessions. Table 11 shows the means and standard deviations of variables for each session in the positive mood and 15-second length condition.

Table 11. Session descriptive statistics: Positive mood & 15-second (n=28)

	Session 1 (n=9)		Session 2 (n=10)		Session 3 (n=9)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Brand Recall	.44	.53	.90	.57	.56	.73
Brand Recognition	2.89	.33	2.90	.32	2.22	1.09
Quizno A_{ad}	3.63	1.45	3.64	.77	3.86	1.36
M&M A_{ad}	3.43	.90	3.75	.65	3.78	.79
Charmin A_{ad}	4.05	1.30	4.06	.69	3.38	1.16
Overall A_{ad}	3.70	.76	3.81	.45	3.73	.60
Quizno PI	4.04	2.12	5.03	1.09	5.44	1.22
M&M PI	5.07	1.53	5.52	1.11	4.74	1.68
Charmin PI	4.33	1.74	5.11	1.25	3.96	2.31
Overall PI	4.48	1.44	5.30	.69	4.72	1.34

Positive Mood & 30-Second Condition - In the positive mood and 30-second length condition, one brand, M&M, was not listed in the choices for brand recognition measures for

10 subjects assigned in the first session. These missing values were replaced by the mean of other brands. The findings of an ANOVA indicated that the variations among three sessions were not statistically significant although the descriptive statistics showed somewhat broad variations among sessions. Table 12 shows the means and standard deviations of variables for each session in the positive mood and 30-second length condition.

Table 12. Session descriptive statistics: Positive mood & 30-second (n=30)

	Session 1 (n=10)		Session 2 (n=12)		Session 3 (n=8)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Brand Recall	.70	.82	.75	.75	.75	.71
Brand Recognition	--	--	3.00	.00	3.00	.00
Brand Recognition with mean replacements	3.00	.00	3.00	.00	3.00	.00
Quizno A_{ad}	4.10	1.03	4.18	1.04	4.25	1.33
M&M A_{ad}	4.20	.91	4.10	.91	4.09	1.00
Charmin A_{ad}	4.19	.33	4.57	1.04	5.05	1.23
Overall A_{ad}	4.16	.64	4.28	.72	4.46	1.09
Quizno PI	4.97	1.48	5.72	.85	5.88	1.01
M&M PI	5.23	.83	5.17	1.74	5.50	1.32
Charmin PI	5.60	.83	5.31	.88	5.88	1.33
Overall PI	5.27	.69	5.40	.76	5.75	.67

Negative Mood & 15-Second Condition - In the negative mood and 15-second length condition, similar to the previous positive mood / 30-second length condition, M&M measures were not available for 10 subjects assigned to the first session when measuring brand recognition. Their recognition values were replaced with the means of other brands. ANOVA analyses found a significant difference among three sessions in a brand recall

measure. Therefore, *Tukey's HSD* post-hoc tests were followed and revealed that subjects assigned to the second and third sessions recalled significantly more brands (M=1.00 and M=.70, respectively) than those assigned to the first session (M=.09). Except for the brand recall, the differences among three sessions were not found to be statistically significant with regard to other variables. Table 13 shows the means and standard deviations of variables for each session in the negative mood and 15-second length condition.

Table 13. Session descriptive statistics: Negative mood & 15-second (n=29)

	Session 1 (n=11)		Session 2 (n=8)		Session 3 (n=10)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Brand Recall	.09	.30	1.00	1.07	.70	.67
Brand Recognition	--	--	2.75	.46	2.70	.48
Brand Recognition with mean replacements	2.18	1.03	2.75	.46	2.70	.48
Quizno A_{ad}	3.87	.63	3.68	.66	3.54	.71
M&M A_{ad}	3.64	.94	3.73	.41	3.76	.85
Charmin A_{ad}	3.81	.84	3.77	1.31	3.83	.88
Overall A_{ad}	3.77	.55	3.73	.55	3.71	.62
Quizno PI	4.67	1.23	5.08	1.05	4.90	1.23
M&M PI	5.42	.93	4.25	1.43	5.07	1.15
Charmin PI	5.21	1.47	4.17	.84	5.07	1.06
Overall PI	5.10	.80	4.50	.73	5.01	.81

Negative Mood & 30-Second Condition - In the negative mood and 30-second length condition, similar to the previous two conditions, when measuring brand recognition, M&M was not listed in the questionnaire in the first session in which 11 subjects participated. Their missing recognition values were replaced with the means of other brands. Overall, the

descriptive statistics show somewhat different means and standard deviations among variables. However, these differences were not statistically significant, according to ANOVA. Table 14 shows the means and standard deviations of variables for each session in the negative mood and 30-second length condition.

Table 14. Session descriptive statistics: Negative mood & 30-second (n=33)

	Session 1 (n=11)		Session 2 (n=13)		Session 3 (n=9)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Brand Recall	1.18	.60	1.00	.82	.78	.83
Brand Recognition	--	--	2.92	.28	2.89	.33
Brand Recognition with mean replacements	2.86	.45	2.92	.28	2.89	.33
Quizno A_{ad}	4.16	.73	4.48	1.07	3.79	1.16
M&M A_{ad}	3.52	.84	3.54	.74	3.29	.83
Charmin A_{ad}	4.06	1.28	3.99	.91	3.37	.97
Overall A_{ad}	3.91	.71	4.00	.60	3.48	.83
Quizno PI	4.77	1.99	5.56	.98	4.93	1.41
M&M PI	5.33	1.57	5.62	1.05	4.41	1.47
Charmin PI	4.77	1.28	5.10	1.30	4.70	1.46
Overall PI	4.96	1.02	5.43	.61	4.68	.71

In sum, except for brand recall in the negative mood and 15-second length condition, subjects' evaluations were not significantly different among sessions in each mood and length condition. Other than this case, brand recall, variations among three sessions fell within statistically acceptable ranges. This indicated that the order of commercial breaks or the order of ads in a break did not influence subjects' evaluations of ads and programs.

Therefore, it is also assumed that the experimental condition was equal to all the participants in each context-induced and commercial-length condition.

Hypotheses Tests

The results of the assumption checks indicated that all the requirements for the ANOVA analyses were achieved. First, in general, the population distributions on the dependent variables were normally distributed for each condition. Although the results of graphic inspections and the measures of skewness of and kurtosis showed the signs of violations for normality assumptions in some cases, ANOVA should be fairly robust to the non-normality, especially with a moderate sample size in each condition. Second, the cases represented random samples from young television viewers, and the scores on dependent variable were independent of each other. Third, with an approximately equivalent sample size in each condition, generally, the distributions of errors within conditions showed equal variances.

This study conducted 2x2 ANOVA analyses to test the main effects of commercial length and context-induced mood and their interaction on advertising effectiveness. For testing the main effect of commercial length (15- and 30-seconds), this study investigated the mean differences between two length formats for the four measures of advertising effectiveness across two mood conditions using a between-subject comparison approach. Similarly, for the main effect of the context-induced mood impacts (positive and negative), subjects' evaluations of test ads were aggregated by mood types, and the mean differences between two mood formats with regard to the four advertising effectiveness measures across two length conditions were compared using a between-subject comparison approach. Finally,

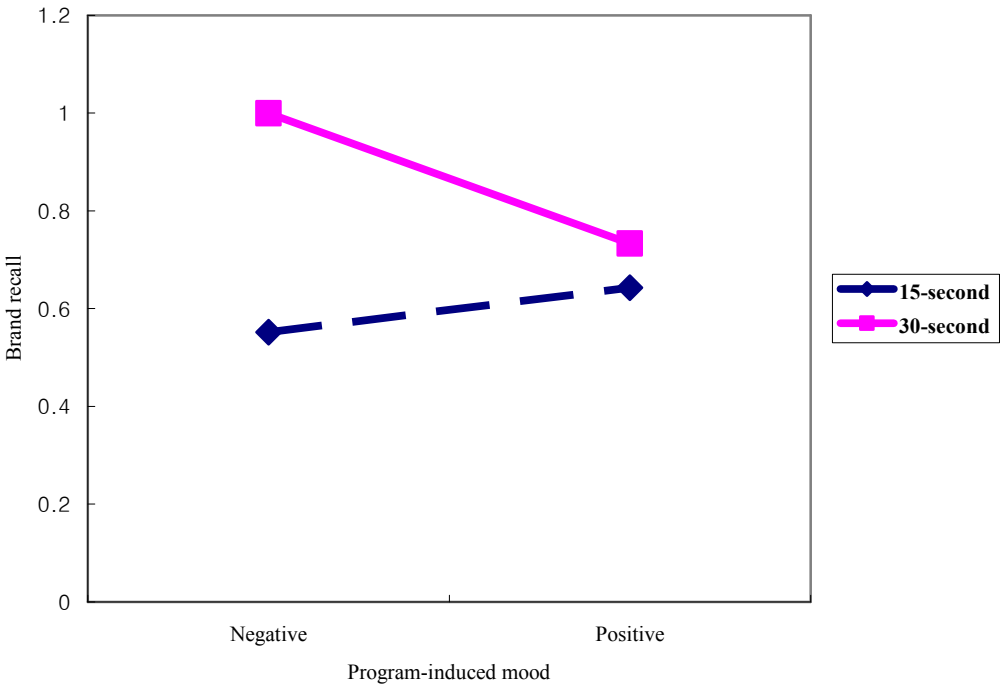
for the interaction effects, this study conducted *Tukey's HSD* post-hoc tests to detect which measures were statistically different from others.

Brand Recall - The means and standard deviations for brand recall as a function of commercial length and context-induced mood are presented in Table 15. The overall mean of brand recall was .74. Figure 1 shows the relationship between subjects' brand-recall scores in each condition.

Table 15. Mean statistics: Brand recall

Brand Recall			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	.55 (.78)	.64 (.62)	.60
	30-second	Mean (Std.)	1.00 (.75)	.73 (.74)	.87
	Mood Means		.79	.69	.74

Figure 1. Brand recall



As shown in Table 16, a two-way analysis of variance (ANOVA) showed a significant main effect for the types of commercial length on brand recall, F (1, 116) = 4.09, $p < .05$, partial $\eta^2 = .03$. Thus, hypothesis 1a was supported. Subjects that saw longer commercials recalled more brands than subjects who saw shorter commercials. However, hypothesis 2a was not supported. The difference between the two mood types was not statistically significant. For brand recall, the interaction between program-induced mood and commercial length was not significant.

Table 16. ANOVA analysis: Brand recall

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.23	1	.23	.43	.511	.004
Length types*	2.17	1	2.17	4.09	.045	.03
Mood x Length	.96	1	.96	1.81	.182	.02
Error	61.47	116	.53			
Total	64.99	129				

*: $p<.05$

Brand Recognition - Table 17 shows the means and standard deviations for brand recognition in each condition. On average, the overall mean of brand recall was 2.82. The relationship among brand recognition scores in each condition is displayed in Figure 2.

Table 17. Mean statistics: Brand recognition

Brand Recognition			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	2.72 (.46)	2.70 (.72)	2.70
	30-second	Mean (Std.)	2.91 (.29)	3.00 (.00)	2.95
	Mood Means		2.83	2.81	2.82

Figure 2. Brand recognition

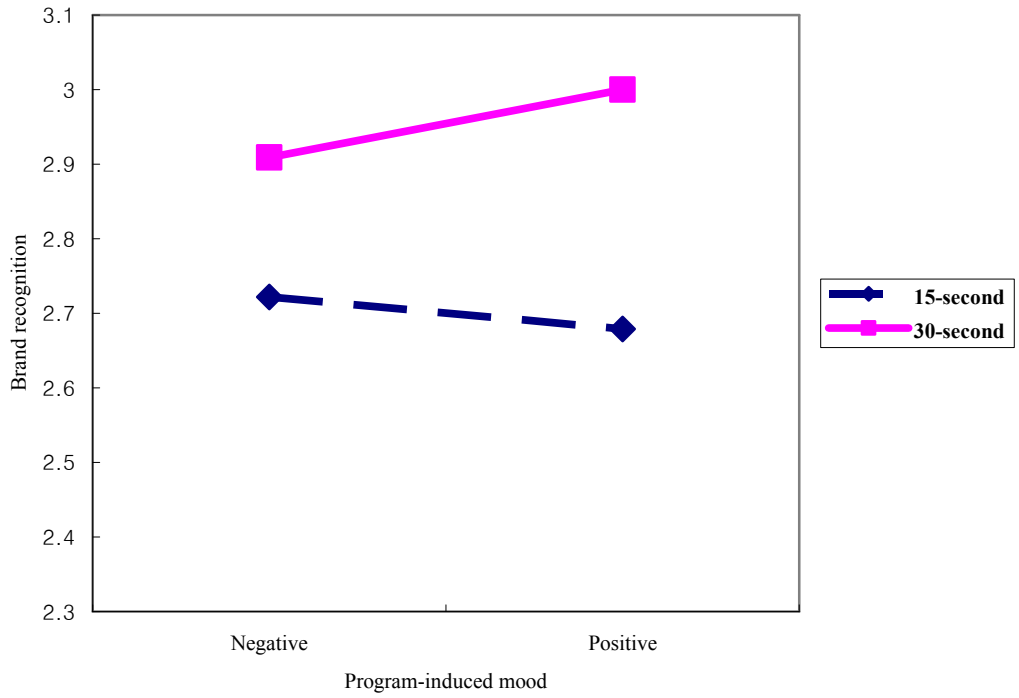


Table 18 shows the results of ANOVA analyses regarding brand recognition. The findings indicate that, consistent with the prediction of this study, the main effect of commercial length on brand recognition was significant, F (1, 84) = 5.95, $p < .05$, partial η^2= .07. Thus, hypothesis 1b was supported. The results of the ANOVA indicate that there is a statistically significant difference between two length formats. This means that ads in longer commercials were significantly better recognized than those in shorter ads. However, hypothesis 2b was not supported. No statistically significant difference was detected between the two mood types. No interaction between program-induced mood and commercial length on brand recognition was found.

Table 18. ANOVA analysis: Brand recognition

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.01	1	.01	.05	.821	.001
Length types*	1.38	1	1.38	5.95	.017	.07
Mood x Length	.10	1	.10	.42	.520	.01
Error	19.54	84	.23			
Total	21.09	87				

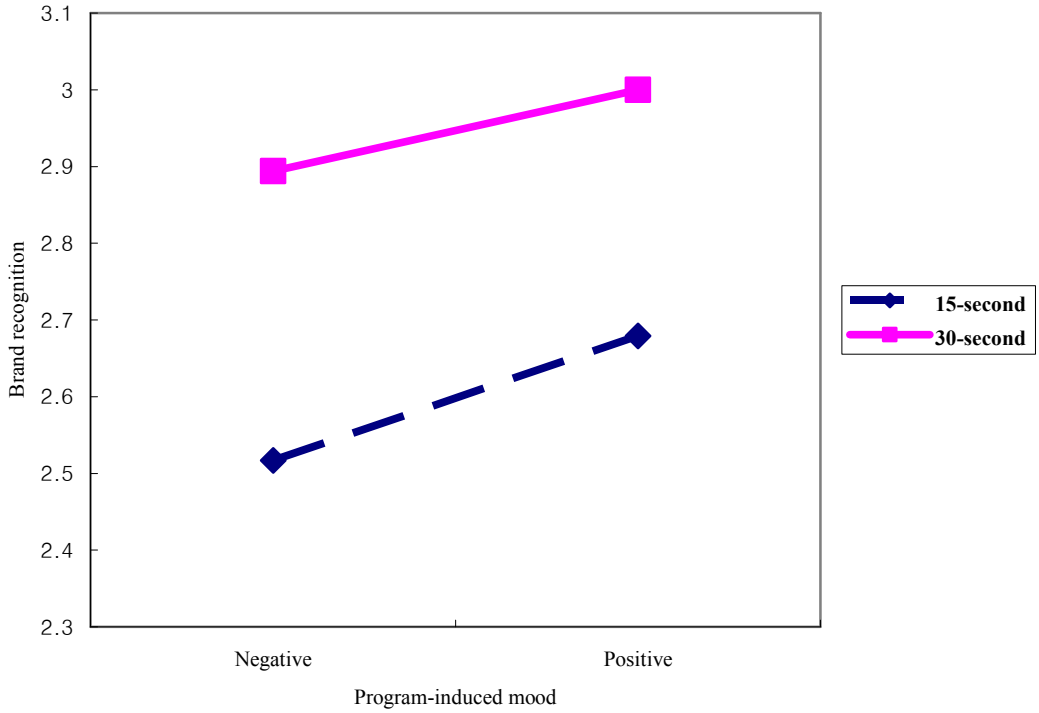
*: $p<.05$

Brand Recognition with Mean Replacements - When missing values were replaced with means of other brands, the grand mean of brand recognition was lowered to 2.78. Table 19 shows the means and standard deviations for brand recognition scores in each condition. The relationship among brand recognition scores in each condition is presented in Figure 3.

Table 19. Mean statistics: Brand recognition with mean replacements

Brand Recognition mean replacements			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	2.52 (.76)	2.68 (.72)	2.60
	30-second	Mean (Std.)	2.89 (.35)	3.00 (.00)	2.94
	Mood Means		2.72	2.85	2.78

Figure 3. Brand recognition with mean replacements



When missing values were replaced with the mean of other values, consistently, the main effect of commercial length on brand recognition was significant, F (1, 116) = 12.34, p < .001, partial η^2= .10. This finding supported hypothesis 1b: subjects were more likely to recognize brands in the longer commercials than brands in the shorter ads. However, again, hypothesis 2b was not supported: the effect of program-elicited mood on brand recognition was not statistically significant. Similarly, the interaction between two variables was not significant. The results are displayed in Table 20.

Table 20. ANOVA analysis: Brand recognition with mean replacements

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.53	1	.53	1.81	.181	.02
Length types***	3.64	1	3.64	12.34	.001	.10
Mood x Length	.02	1	.02	.08	.781	.001
Error	34.23	116	.30			
Total	38.40	119				

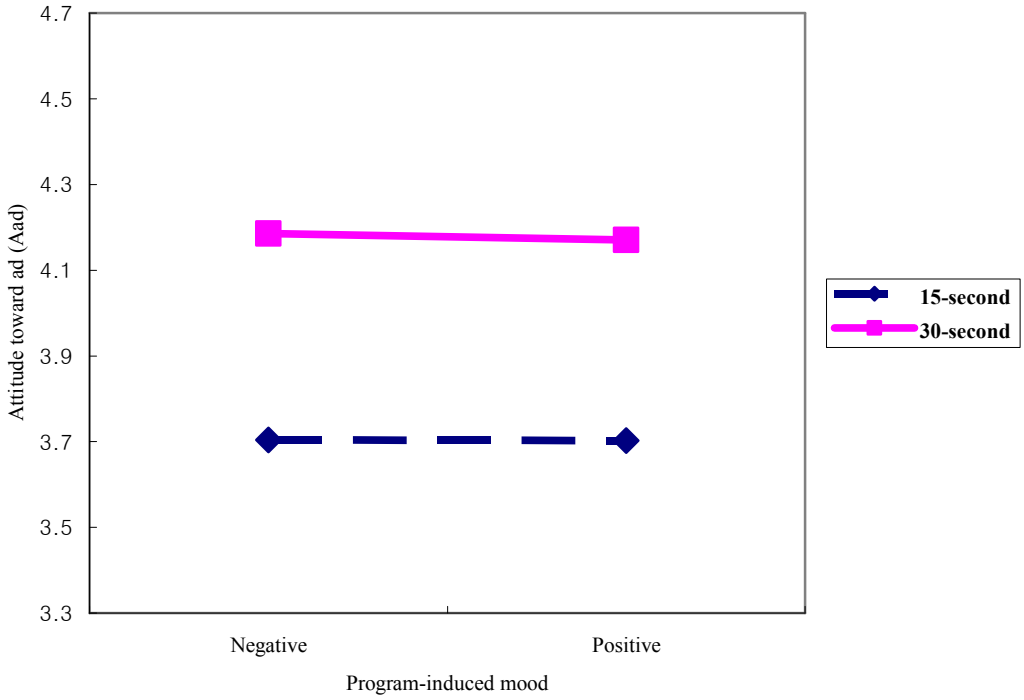
***: $p<.001$

Attitude toward Ads: Quizno Ad - The means and standard deviations for attitude toward the Quizno ad as a function of two factors are displayed in Table 21. The descriptive statistics show that the overall mean of attitude toward the Quizno ad was 3.96. The relationship among attitude toward ad scores in each condition is presented in Figure 4.

Table 21. Mean statistics: Attitude toward the Quizno ad

Quizno A_{ad}			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	3.70 (.66)	3.70 (1.16)	3.70
	30-second	Mean (Std.)	4.19 (1.01)	4.17 (1.08)	4.18
	Mood Means		3.96	3.95	3.96

Figure 4. Attitude toward ad: Quizno ad



Regarding the attitude toward the Quizno's ad, the ANOVA analysis showed a significant main effect for commercial length, F (1, 115) = 6.78, p < .01, partial η^2= .06. As predicted, subjects' attitude toward the Quizno ad was significantly higher in the longer length format than in the shorter length format. Thus, hypothesis $1c_{\text{-Quizno}}$ was supported. However, this study failed to find a significant main effect for context-induced moods; thus, hypothesis $2c_{\text{-Quizno}}$ was not supported with this sub-sandwich maker. The interaction between commercial length and context-induced mood was not significant for attitude toward the Quizno ad. The results are displayed in Table 22.

Table 22. ANOVA analysis: Attitude toward the Quizno ad

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.002	1	.002	.002	.963	.000
Length types*	6.69	1	6.69	6.78	.010	.06
Mood x Length	.001	1	.001	.001	.973	.000
Error	113.64	115	.99			
Total	120.36	118				

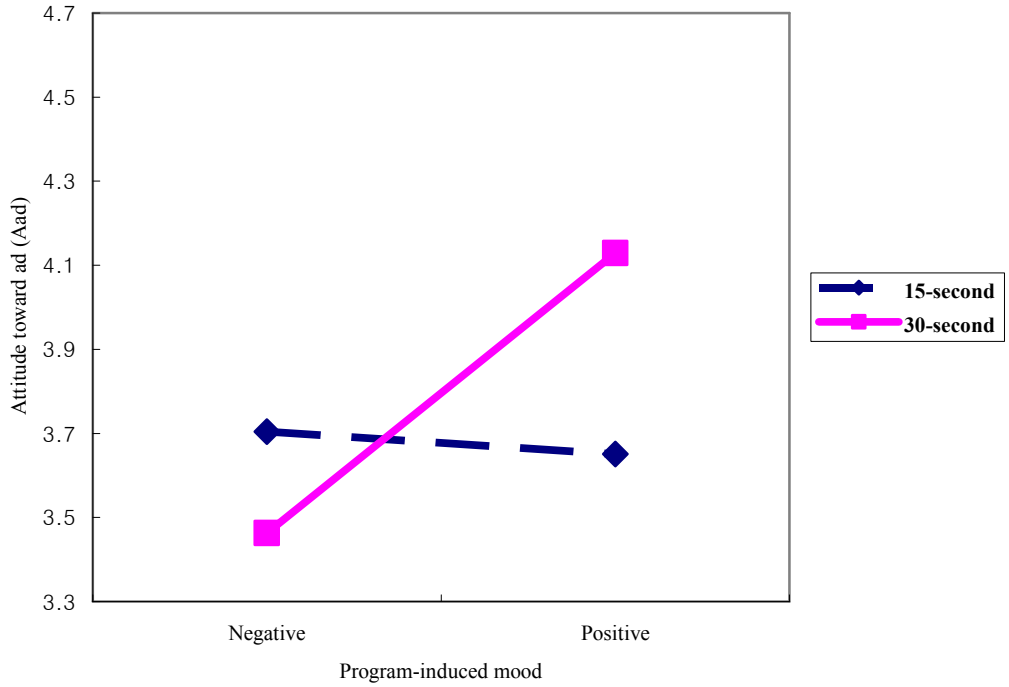
*: $p<.05$

Attitude toward Ads: M&M Ad - Table 23 shows the means and standard deviations in each condition for subjects' attitude toward the M&M ad. The descriptive statistics show that the overall mean of attitude toward the ad was 3.73. The relationship among attitude toward the ad scores in each condition is exhibited in Figure 5.

Table 23. Mean statistics: Attitude toward the M&M ad

M&M A_{ad}			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	3.70 (.77)	3.65 (.77)	3.68
	30-second	Mean (Std.)	3.46 (.78)	4.13 (.90)	3.78
	Mood Means		3.58	3.90	3.73

Figure 5. Attitude toward ad: M&M ad



The results for the ANOVA analysis showed a significant simple main effect for the types of context mood, F (1, 115) = 4.23, $p < .05$, partial $\eta^2 = .04$. Subjects evaluated the chocolate commercial more favorably when M&M was advertised in the positive mood context than when it was promoted in the negative mood context. Thus, hypothesis $2c_{\text{-M\&M}}$ was supported. However, for the attitude toward the M&M ad, the significant main effect of commercial length was not found; thus, hypothesis $1c_{\text{-M\&M}}$ was not supported. In addition, the ANOVA analysis also found that the interaction between context-induced moods and commercial length was significant, F (1, 115) = 5.84, $p < .05$, partial $\eta^2 = .05$. The results of ANOVA analysis are displayed in Table 24.

Table 24. ANOVA analysis: Attitude toward the M&M ad

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition*	2.77	1	2.77	4.23	.042	.04
Length types	.41	1	.41	.63	.428	.01
Mood x Length*	3.83	1	3.83	5.84	.017	.05
Error	75.29	115	.66			
Total	82.59	118				

*: $p<.05$

Because the interaction between commercial length and program-induced mood was significant, this study conducted a post-hoc test to identify the differences among the interactions (simple effect). Thus, the simple main effect was assessed using the contrast (*lmatrix*) option with the ANOVA analysis. Table 25 summarizes the results.

Table 25. A summary of analysis of variance and simple main effects

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*P*
Positive/15-second vs. Positive/30-second	3.24	1	3.24	4.95	.028
Negative/15-second vs.Negative/30-second	.90	1	.90	1.37	.244
Positive/15-second vs.Negative/15-second	.04	1	.04	.06	.805
Positive/30-second vs.Negative/30-second*	6.96	1	6.96	**10.63**	**.001**

*: Statistically significant (*F-ratio* is higher than $F_{.0125,1,115} = 6.439$ and *P*-value is smaller than .0125)

This analysis used the error rate of .05, a conservative significance level for a Bonferroni correction in order to reduce the likelihood of committing a type I error, although

this study contained two main effects (excluding interaction effects). Thus, because this study tested four simple effects, the significance level of each main effect was assessed with α = .0125 (.05/4). Then, to confirm this finding, using *Microsoft Excel*, the critical value of the *F*-ratio at .0125 with *df* of 1 and 115 was obtained, $F_{.0125,1,115} = 6.439$. Based on these standards, this study found that subjects' attitude toward the M&M ad in the positive context-induced mood and 30-second commercial length condition was significantly different from that in the negative context-induced mood and 30-second commercial length condition (F=10.63, p<.001). This was the only significant contrast that had a larger *F*-ratio than the critical *F*-ratio (6.439) and smaller *p*-value than the corrected *p*-value (.0125).

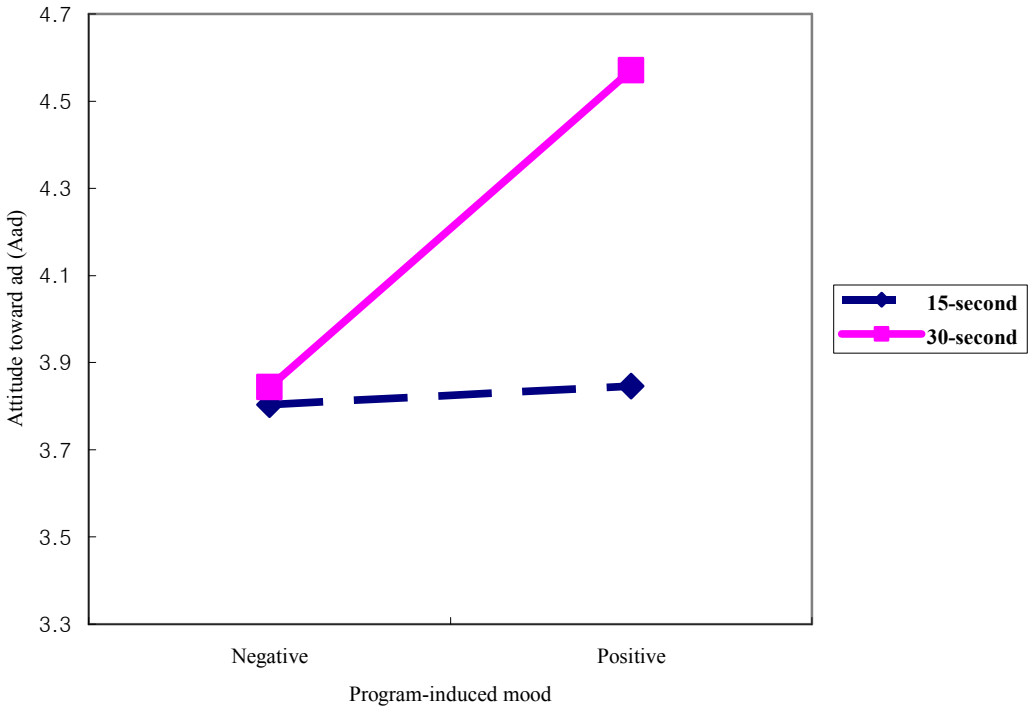
More specifically, a significant context-induced mood effect was found in the 30-second length format: Subjects who were assigned to the positive mood and 30-second length condition reported a significantly higher attitude toward the M&M commercial than those who were assigned to the negative mood and 30-second length condition. In this analysis, however, the effect of commercial length was not significant either both mood condition.

Attitude toward Ads: Charmin Ad - The means and standard deviations for attitude toward the Charmin commercial as a function of two factors are displayed in Table 26. On average, the overall mean of attitude toward the Charmin commercial was 4.02. The relationship among subjects' attitude toward the Charmin scores in each condition is presented in Figure 6.

Table 26. Mean statistics: Attitude toward the Charmin ad

Charmin A_{ad}			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	3.80 (.97)	3.85 (1.08)	3.82
	30-second	Mean (Std.)	3.84 (1.07)	4.57 (.96)	4.19
	Mood Means		3.83	4.24	4.02

Figure 6. Attitude toward ad: Charmin ad



ANOVA analysis showed a significant main effect for commercial length regarding the attitude toward the Charmin ad, F (1, 114) = 4.12, $p < .05$, partial $\eta^2 = .04$. Consistent

with the prediction of this study, subjects evaluated the 30-second Charmin ad more favorably than the shorter ad. Thus, hypothesis $1c_{\text{-Charmin}}$ was supported. The ANOVA analysis also showed a significant main effect of context-induced moods, F (1, 114) = 4.16, p < .05, partial η^2= .04. The results indicated that subjects' attitudinal evaluation in the positive mood context was significantly higher than that in the negative mood context. Thus, hypothesis $2c_{\text{-Charmin}}$ was also supported. The interaction between two variables was not significant. The ANOVA results are shown in Table 27.

Table 27. ANOVA analysis: Attitude toward the Charmin ad

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition*	4.35	1	4.35	4.16	.044	.04
Length types*	4.30	1	4.30	4.12	.045	.04
Mood x Length	3.43	1	3.43	3.28	.073	.03
Error	119.05	114	1.04			
Total	131.34	117				

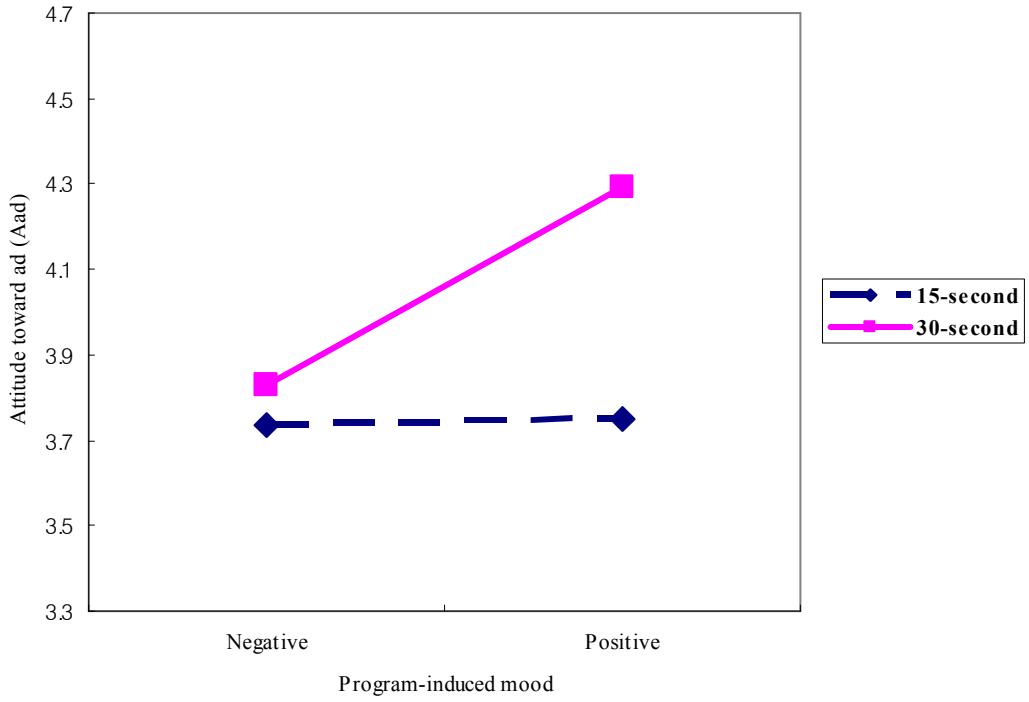
*: p<.05

Attitude toward Ads: Overall Ads - The means and standard deviations for attitude toward the overall ads as a function of commercial length and context-induced mood are presented in Table 28. The descriptive statistics showed that the grad mean of attitude toward three ads was 3.91. The relationship among attitude toward ad scores in each condition is displayed in Figure 7.

Table 28. Mean statistics: Attitude toward overall ads

Overall A_{ad}			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	3.74 (.56)	3.75 (.59)	3.74
	30-second	Mean (Std.)	3.83 (.72)	4.29 (.79)	4.05
	Mood Means		3.79	4.04	3.91

Figure 7. Attitude toward ad: Overall ads



When subjects' evaluation for the three ads were combined, the significant main effect of commercial length was found in attitudinal measure, F (1, 114) = 6.50, $p < .05$, partial $\eta^2 = .05$. Consistent with the prediction of this study, subjects evaluated the longer ads

more significantly favorably than the shorter ads with regard to attitude toward ad. Thus, hypothesis $1c_{\text{-Overall Aad}}$ was supported. However, hypothesis $2c_{\text{-Overall Aad}}$ was not supported. Also, the interaction between two variables was not found. The results are displayed in Table 29.

Table 29. ANOVA analysis: Attitude toward overall ads

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	1.62	1	1.62	3.56	.062	.03
Length types*	2.96	1	2.96	6.50	.012	.05
Mood x Length	1.47	1	1.47	3.23	.075	.03
Error	51.95	114	.46			
Total	58.04	117				

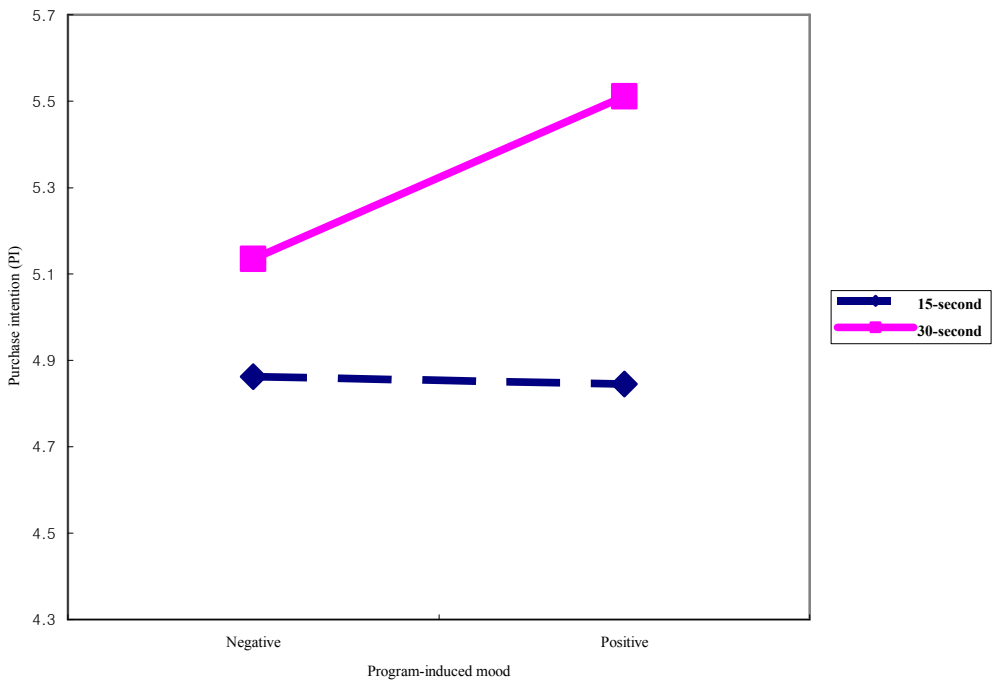
*: $p<.05$

Purchase Intention: Quizno - Table 30 displays the means and standard deviations for purchase intention for Quizno sub sandwich. The descriptive statistics indicated that the overall mean of purchase intention for Quizno sub sandwich was 5.10. The relationship among purchase intention for Quizno in each condition is displayed in Figure 8.

Table 30. Mean statistics: Purchase intention toward Quizno

Quizno PI			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	4.86 (1.15)	4.85 (1.59)	4.85
	30-second	Mean (Std.)	5.14 (1.47)	5.51 (1.16)	5.32
	Mood Means		5.01	5.19	5.10

Figure 8. Purchase intention: Quizno



Regarding the purchase intention toward Quizno's sub sandwiches, the ANOVA analysis failed to find significant main effects of commercial length and program-induced mood type, or the interaction between these two variables. Therefore, hypotheses $1d_{\text{-Quizno}}$

and $2d_{\text{-Quizno}}$ were not supported. The finding showed that subjects' intention to buy Quizno sub sandwiches is not significantly influenced by the commercial length, program context or the interaction between these two factors. The results are displayed in Table 31.

Table 31. ANOVA analysis: Purchase intention toward Quizno

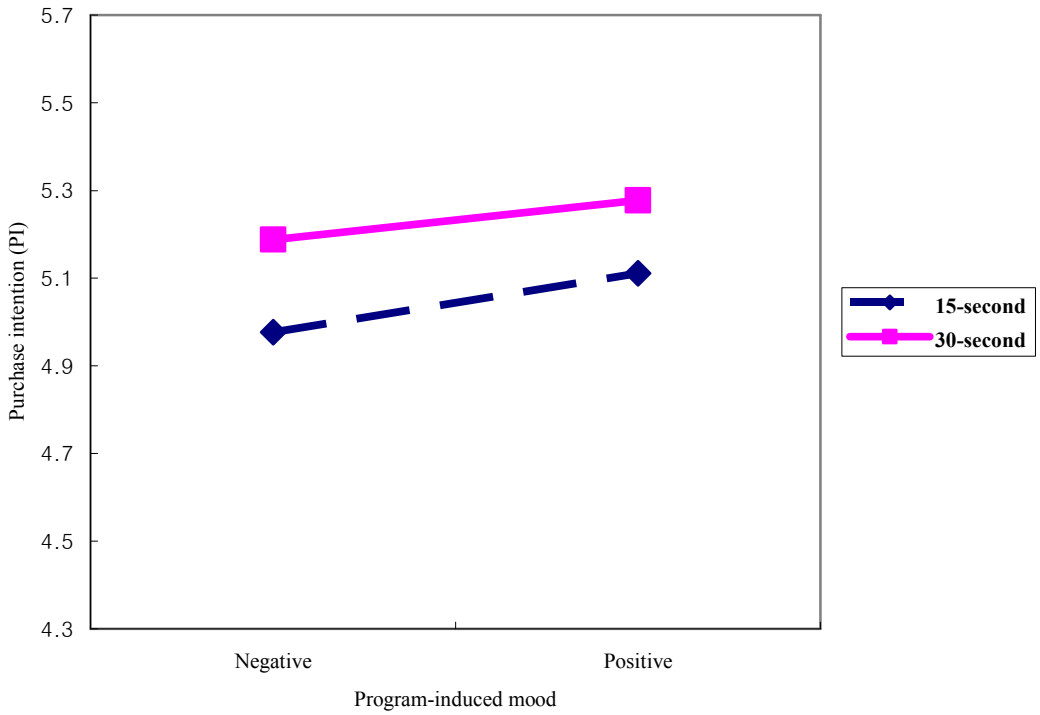
Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.96	1	.96	.52	.473	.004
Length types	6.55	1	6.55	3.55	.062	.03
Mood x Length	1.14	1	1.14	.62	.433	.01
Error	211.91	115	1.84			
Total	220.48	118				

Purchase Intention: M&M - The means and standard deviations for purchase intention for M&M chocolate candy as a function of two factors are presented in Table 32. The grad mean of attitude toward three ads was 5.14. The relationship among subjects' intentions to buy M&M in each condition is presented in Figure 9.

Table 32. Mean statistics: Purchase intention toward M&M

M&M PI			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	4.98 (1.22)	5.11 (1.44)	5.04
	30-second	Mean (Std.)	5.19 (1.40)	5.28 (1.35)	5.23
	Mood Means		5.09	5.20	5.14

Figure 9. Purchase intention: M&M



For the purchase intention toward M&M chocolates, the ANOVA analysis failed to find significant main effects of commercial length and program-induced mood type, as well as the interaction between these two variables. Therefore, hypotheses $1d_{-M\&M}$ and $2d_{-M\&M}$ were not supported. The finding indicated that subjects' intention to buy M&M chocolate candy is not significantly influenced by commercial length and context-induced mood, as well as their interaction. The results are displayed in Table 33.

Table 33. ANOVA analysis: Purchase intention toward M&M

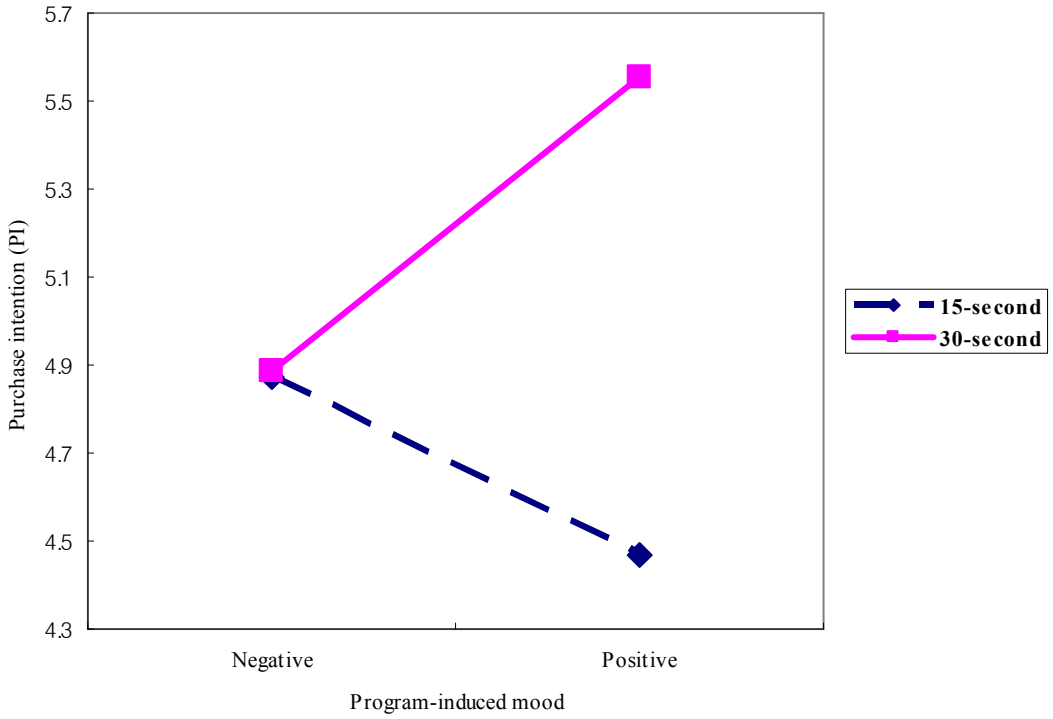
Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.37	1	.37	.20	.654	.002
Length types	1.05	1	1.05	.57	.452	.01
Mood x Length	.01	1	.01	.01	.930	.00
Error	208.88	114	1.83			
Total	210.31	117				

Purchase Intention: Charmin - The means and standard deviations for purchase intention for the Charmin toilet paper as a function of two variables are shown in Table 34. The overall mean of purchase intention for Charmin toilet paper was 4.96. The relationship among purchase intention for Charmin toilet paper in each condition is presented in Figure 10.

Table 34. Mean statistics: Purchase intention toward Charmin

Charmin PI			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	4.87 (1.23)	4.47 (1.82)	4.68
	30-second	Mean (Std.)	4.89 (1.31)	5.56 (1.00)	5.21
	Mood Means		4.88	5.04	4.96

Figure 10. Purchase intention: Charmin



As displayed in Table 35, the ANOVA analysis found a significant simple main effect for the commercial lengths, F (1, 114) = 4.82, $p < .05$, partial $\eta^2 = .04$. As predicted, subjects' purchase intention after watching the longer commercials was significantly higher than their purchase intention after watching shorter commercials. Thus, hypothesis $1d_{\text{-Charmin}}$ was supported. However, this study failed to find a significant main effects for context-induced mood with regard to the behavioral measure; thus, hypothesis $2d_{\text{-Charmin}}$ was not supported. The ANOVA analysis also found that the interaction between context-induced moods and commercial length was significant, F (1, 114) = 4.61, $p < .05$, partial $\eta^2 = .04$.

Table 35. ANOVA analysis: Purchase intention toward Charmin

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.52	1	.52	.28	.596	.002
Length types*	8.86	1	8.86	4.82	.030	.04
Mood x Length*	8.48	1	8.48	4.61	.034	.04
Error	209.69	114	1.84			
Total	227.23	117				

*: $p<.05$

Because of the statistical significant interaction effect between two variables, the follow-up test was conducted in order to investigate where the differences among the interactions were. The simple main effects were acquired using the contrast (*lmatrix*) option with ANOVA. Table 36 summarized the results.

Table 36. A summary of analysis of variance and simple main effects

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*P*
Positive/15-second vs. Positive/30-second*	16.77	1	16.77	**9.12**	**.003**
Negative/15-second vs.Negative/30-second	.002	1	.002	.001	.973
Positive/15-second vs.Negative/15-second	2.29	1	2.29	1.24	.267
Positive/30-second vs.Negative/30-second	6.95	1	6.95	3.78	.054

*: Statistically significant (*F-ratio* is higher than $F_{.0125,1,17} = 6.436$ and *P*-value is smaller than .0125)

Again, this analysis used the error rate of .05 as a conservative significant level for Bonferroni correction to reduce the likelihood to commit the type I error although this study

involved two main effects. Hence, a significant level of each main effect was assessed with α = .0125 (.05/4) due to six simple effects (two main effects and four instruction effects) tested in this study. Then, in order to confirm this finding, using *Microsoft Excel*, the critical value of *F*-ratio at .0125 with *df* of 1 and 117 was obtained, $F_{.0125,1,117} = 6.436$. Based on these standards, this study found that subjects' purchase intention for Charmin in the positive context-induced mood and 15-second commercial length condition was significantly different from that in the positive context-induced mood and 30-second commercial length condition (F=9.12, P<.004). This was the only significant contrast that had a larger *F*-ratio than the critical *F*-ratio (6.436) and smaller *p*-value than the Bonferroni corrected *p*-value (.0125).

This finding indicated that the effect of commercial length on the behavioral measure was significant only in the positive mood condition. Subjects who were assigned to the positive mood and 30-second condition reported significantly higher intention to buy Charmin than those who were assigned to the positive mood and 15-second condition. More specifically, their purchase intention was higher for the 30-second ad while their purchase intention for the 15-second was lower, compared to the same length formats in the negative mood condition. In the negative mood condition, subjects' purchase intention for Charmin was similar between two length formats.

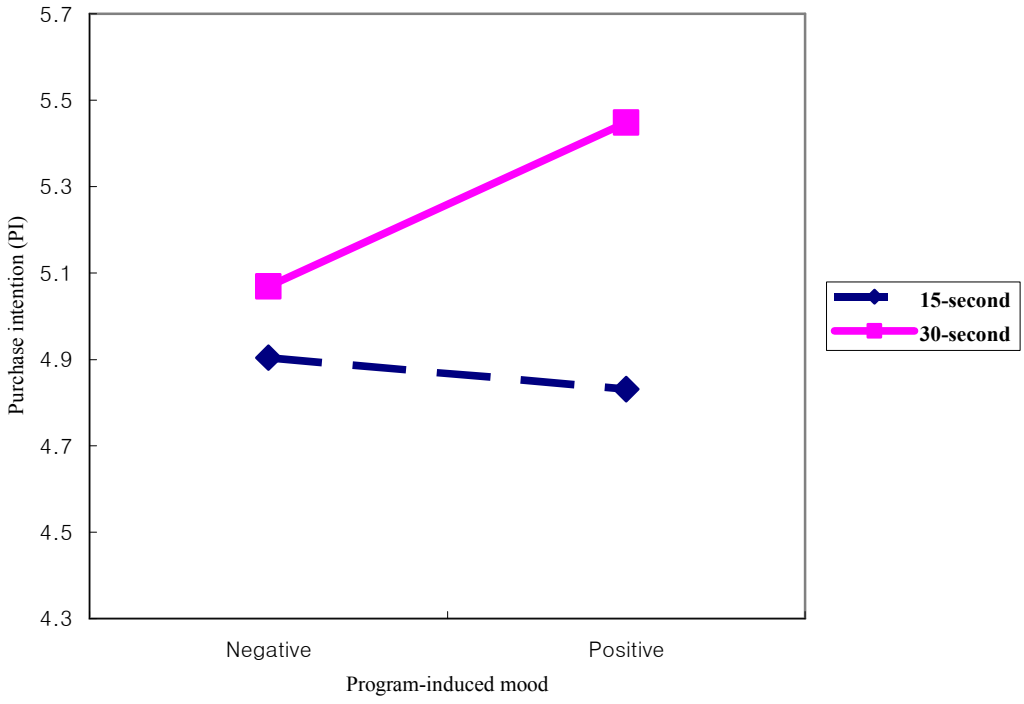
Purchase Intention: Overall Brands - Table 37 presents the means and standard deviations for purchase intention for three brands as a function of commercial length and context-induced moods. When subjects' purchase intentions were aggregated, the grand

mean of purchase intention for three promoted brands was 5.07. The relationship among purchase intention for the three brands in each condition is displayed in Figure 11.

Table 37. Mean statistics: Purchase intention toward overall brands

Overall PI			Mood types		
			Negative	Positive	Length Means
Length	15-second	Mean (Std.)	4.90 (.80)	4.83 (1.21)	4.87
	30-second	Mean (Std.)	5.07 (.82)	5.45 (.72)	5.25
	Mood Means		4.99	5.16	5.07

Figure 11. Purchase intention: Overall brands



The ANOVA indicated that, consistent with the prediction of this study, the main effect of commercial length on behavioral measure for three tested brands was significant, F (1, 114) = 5.59, $p < .05$, partial $\eta^2 = .05$. Subjects reported the higher intention to purchase the brands advertised in the longer ads than those promoted in the shorter ads. Thus, hypothesis $1d_{\text{-Overall PI}}$ was supported. However, this study failed to find a significant main effect for context-induced mood; therefore, hypothesis $2d_{\text{-Oerall PI}}$ was not supported. There is no interaction effect between context-induced mood and commercial length on purchase intention for overall brands. The results are displayed in Table 38.

Table 38. ANOVA analysis: Purchase intention toward overall brands

Source	*Sum of Squares*	*df*	*Mean Square*	*F*	*p*	*Partial Eta Squared*
Mood condition	.69	1	.69	.86	.357	.01
Length types*	4.49	1	4.49	5.59	.020	.05
Mood x Length	1.50	1	1.50	1.87	.175	.02
Error	91.59	114	.80			
Total	98.21	117				

*: $p<.05$

In sum, as shown in Table 39, significant effects of commercial length were found in most variables, except for attitude toward the M&M commercial and purchase intention for Quizno and M&M. On the other hand, the impact of context-induced mood was found to be less considerable. Significant effects of context-induced moods were only found in attitude toward the M&M and Charmin ads. Finally, interaction between two variables was significant in attitude toward the M&M ad and purchase intention for Charmin.

Table 39. Summary of findings

	Length effects (hypothesis 1)	Mood effect (hypothesis 2)	Interaction effect
Brand Recall	* (H1a)	- (H2a)	-
Brand Recognition	* (H1b)	- (H2b)	-
Brand Recognition with mean replacements	*** (H1b)	- (H2b)	-
Attitude toward Quizno ad	** ($H1c_{Quizno}$)	- ($H2c_{Quizno}$)	-
Attitude toward M&M ad	- ($H1c_{M\&M}$)	* ($H2c_{M\&M}$)	*
Attitude toward Charmin ad	* ($H1c_{Charmin}$)	* ($H2c_{Charmin}$)	-
Attitude toward overall ads	*	-	-
Purchase intention for Quizno	-($H1d_{Quizno}$)	-($H2d_{Quizno}$)	-
Purchase intention for M&M	- ($H1d_{M\&M}$)	- ($H2d_{M\&M}$)	-
Purchase intention for Charmin	* ($H1d_{Charmin}$)	- ($H2d_{Charmin}$)	*
Purchase intention for overall brands	*	-	-

*: $p<.05$; **: $p<.01$; ***: $p<.001$

Retests with deleted data

In order to see if the results digress from the initial findings, two additional analyses were conducted. The first test was conducted after deleting three data entries containing missing values in attitude toward ad and purchase intention measures. Using a listwise option, the data were deleted, reducing the total number of entries to 117. Generally, the findings of this analysis echoed the analysis including all the data entries. However, compared to the initial findings, two changes were detected. First, the main effect of commercial length on brand recall disappeared. Second, the significance of the commercial-length main effect became stronger for attitude toward overall ads. Table 40 shows the summary of findings after deleting three entries containing missing values.

Table 40. Summary of findings: Retest without missing values (N=117)

	Length effects (hypothesis 1)	Mood effect (hypothesis 2)	Interaction effect
Brand Recall	- (H1a)	- (H2a)	-
Brand Recognition	* (H1b)	- (H2b)	-
Brand Recognition with mean replacements	*** (H1b)	- (H2b)	-
Attitude toward Quizno ad	** ($H1c_{\_Quizno}$)	- ($H2c_{\_Quizno}$)	-
Attitude toward M&M ad	- ($H1c_{\_M\&M}$)	* ($H2c_{\_M\&M}$)	*
Attitude toward Charmin ad	* ($H1c_{\_Charmin}$)	* ($H2c_{\_Charmin}$)	-
Attitude toward overall ads	*	-	-
Purchase intention for Quizno	-($H1d_{\_Quizno}$)	-($H2d_{\_Quizno}$)	-
Purchase intention for M&M	- ($H1d_{\_M\&M}$)	- ($H2d_{\_M\&M}$)	-
Purchase intention for Charmin	* ($H1d_{\_Charmin}$)	- ($H2d_{\_Charmin}$)	*
Purchase intention for overall brands	*	-	-

*: $p<.05$; **: $p<.01$; ***: $p<.001$

The second additional test was conducted after deleting the data entries that contained four possible outliers, as well as the deletions made in the previous process. The deleted outliers were two extreme values in attitude toward Quizno ad (7.00 and 1.14), purchase intention for M&M (1.33), and purchase intention for three brands (1.33). Using a listwise option, the data were deleted. Therefore, the total number of entries was lowered to 113.

The ANOVA analyses indicated that, in general, these findings replicated the findings found in initial analyses. Nonetheless, several differences were observed. First, similar to the previous analysis, the significant main effect of commercial length on brand recall disappeared. Second, the significance of commercial-length main effect on brand recognition

with mean replacements was weaker. Third, similarly, the effects of commercial length on attitude toward the Quizno ad became also weaker. Finally, a significant main impact of context-induced mood for attitude toward overall ads was found. Table 41 shows the summary of findings after deleting entries containing missing values and possible outliers.

Table 41. Summary of findings: Retest without missing values and outliers (N=113)

	Length effects (hypothesis 1)	Mood effect (hypothesis 2)	Interaction effect
Brand Recall	- (H1a)	- (H2a)	-
Brand Recognition	* (H1b)	- (H2b)	-
Brand Recognition with mean replacements	** (H1b)	- (H2b)	-
Attitude toward Quizno ad	* ($H1c_{\_Quizno}$)	- ($H2c_{\_Quizno}$)	-
Attitude toward M&M ad	- ($H1c_{\_M\&M}$)	* ($H2c_{\_M\&M}$)	*
Attitude toward Charmin ad	* ($H1c_{\_Charmin}$)	* ($H2c_{\_Charmin}$)	-
Attitude toward overall ads	*	**	-
Purchase intention for Quizno	-($H1d_{\_Quizno}$)	-($H2d_{\_Quizno}$)	-
Purchase intention for M&M	- ($H1d_{\_M\&M}$)	- ($H2d_{\_M\&M}$)	-
Purchase intention for Charmin	* ($H1d_{\_Charmin}$)	- ($H2d_{\_Charmin}$)	*
Purchase intention for overall brands	*	-	-

*: $p<.05$; **: $p<.01$

CHAPTER VI

DISCUSSION

This study examined the main effects of commercial length and context-induced mood and their interaction on viewer evaluations of television advertising. The evaluations of advertising were measured by brand recall, brand recognition, attitude toward the ad (A_{ad}), and purchase intention (PI) via the 2x2 factorial design experiment. The following discussion contains a summary of the key findings of this research, followed by a discussion of the implications of the results for consumer research, limitations, and finally directions for future studies.

Commercial Length Effects

Past research on commercial length impact found a positive association between the commercial length and advertising effectiveness. The findings of this study supported a body of research on commercial length effects on television advertising effectiveness: longer ads generate greater attention to and more favorable attitude toward the ads than shorter ones.

The ANOVA testing the influences of two commercial length formats (15-seconds and 30-seconds) on advertising effectiveness revealed that brands promoted in the 30-second commercials were better recalled and recognized compared to those promoted in the 15-second ads. Moreover, in general, subjects showed a more favorable attitude toward longer ads in both individual and combined measures (Quizno ad, Charmin ad, and the three ads together). Finally, with regard to the intention to purchase the brands advertised, subjects also

showed a greater intention to buy brands shown in longer ads rather than in shorter ads (overall brands). However, the impact of commercial length was not significant for attitude toward the M&M ad and purchase intention toward Quizno and M&M. For these measures, although the results were in the right direction, the differences were not statistically significant.

This study also obtained the simple main effect of commercial length on purchase intention for Charmin. Subjects who were assigned to the positive mood condition reported significantly higher intention to buy Charmin toilet paper that appeared in the longer commercial than that shown in the shorter ad. In the negative mood condition, subjects showed similar purchase intention for the toilet paper regardless of the length of the commercial they saw.

Overall, the effects of commercial length on the four measures of advertising effectiveness were significant regardless of moods programs generated. Yet, examining the differences between the effects of the two length formats for the program-induced moods separately can provide a deeper understanding of these effects (see Table 10). For instance, in the positive mood condition, subjects' evaluations for longer ads (and brands in the longer ads) were higher for all the variables than for shorter ads (and brands in those ads). In the negative mood condition, on the other hand, although longer ads seemed to be generally more effective than shorter ones, the differences were significantly smaller. This difference may suggest that longer ads are generally more effective in a positive mood condition than in a negative mood condition.

Analyzing the differences of commercial length effects between two mood types allows another interesting observation: the length of a commercial influences the different

aspects of advertising effectiveness depending upon the type of moods induced by a surrounding television program. That is, awareness-based evaluations (recall and recognition) were more largely influenced by commercial length in the negative mood condition, while attitudinal (attitude toward ad) and behavioral (purchase intention) evaluations were more considerably affected by ad length in the positive mood condition.

Context-Induced Mood Effects

According to Aylesworth and MacKenzie (1998), when people are in a positive mood due to a television program, they tend to engage in more effortful, systematic processing for additional stimuli, such as television commercials, to maintain their emotionally satisfactory statuses. Accordingly, they become highly motivated to process commercial information and activate a more systematic processing strategy. Thus, this study predicted that ads placed in a positive mood-generating program would be more thoroughly processed and thereby more effectively evaluated than those placed in a program that generated a negative mood, regardless of commercial lengths. However, such effects were found to be minimal in this study.

Overall, the effects of context-induced mood were not particularly significant for the ads placed in the positive mood condition, though ads placed in a positive mood-generating program were generally more effective than those in a negative mood-inducing show in some cases. Significant context-elicited mood effects were only found in attitude toward the Charmin commercial. Other than attitudinal measures for one individual brand, significant context-induced mood effects were not detected in other measures of advertising effectiveness measures, such as brand recall, recognition, and purchase intention. Further,

opposite to the prediction of this study, in some cases, ads and brands advertised in the positive mood-inducing show were less favorably evaluated than those in the negative mood show in some cases (e.g., brand recall and recognition).

This study also obtained the simple main effect of program-induced mood on attitude toward the M&M commercial. When determining the differences between the effects of context-generated moods for two commercial length formats individually, a significant context-induced mood effect was found for the 30-second format between two mood types. Subjects who were assigned to the positive mood and 30-second condition reported significantly higher attitude toward the M&M commercial than those who were assigned to the negative mood and 30-second condition. In the shorter commercial condition, subjects who were assigned to both positive and negative mood conditions showed similar attitude toward the ad.

Although the effects of television program-induced mood on the success of advertising were limited, the understanding of context-induced mood effects can be deepened by examining the differences between the effects of mood effects for two commercial length formats separately (see Table 10). For example, in the 15-second format, the effects of context-induced mood on ad performance seemed to be small between two mood types. In the 30-second format, however, program-generated mood was stronger in the positive mood condition than in the negative mood condition, particularly with attitudinal measures (M&M ad, Charmin ad, and overall ads) and behavioral measure (Charmin).

Thus, based on this difference, it may be hypothesized that the mood television programs generate can play influence the success of embedded ads only when ads are long enough, at least 30 seconds. If this is the case, the difference between two length formats

may additionally explain why significant context-induced mood effects were not found in this study. As discussed, advertising performance was not greatly influenced by the moods generated by program when ads were 15 seconds. However, noticeable differences were found between two 30-second ads depending upon the types of moods generated by programs. Thus, if previous studies that observed significant context-induced mood effects employed 30-second ads only (due to its popular use in industrial practice) in investigating the effects of context-induced mood, significant context-induced mood effects would have been presumably obtained. However, if they tested the effect of context-generating mood using shorter ads, they might not have obtained the significant effect of program-induced mood on advertising effectiveness.

Interaction Effects

This study examined whether commercial length and context-induced mood interact with each other to influence the effectiveness of television advertising. The findings of this study indicated that interactions between commercial length and program-generating moods were significant for the attitudinal measure of the M&M ad and behavioral measure toward Charmin toilet paper. For other measures of advertising effectiveness, however, interactions between two factors were not significant.

In both measures with significant interactions, research participants commonly evaluated 15-second ads more favorably in the negative mood condition than ads of the same length in the positive mood condition. For instance, attitude toward the 15-second M&M ad in the negative condition was 3.70 while attitude toward the same ad in the positive mood condition was 3.65. In the same way, the mean of purchase intention for Charmin in the

negative mood condition for the shorter ad was 4.87 while that in the positive mood condition was 4.47. In the positive mood condition, on the other hand, subjects showed significantly more favorable evaluations for the 30-second ads than for the 15-second ones. For this reason, significant simple main effect of commercial length was found in purchase intention for Charmin in the positive mood condition between the 30-second ad (5.56) and 15-second ad (4.89) formats.

In addition, the strong performances of the 15-second ads in the negative mood condition also contributed to similar evaluations for the 30-second ads with the shorter length format in the same mood condition. Thus, a simple main effect of context-induced mood was found significant in the measure of attitude toward the 30-second M&M commercials between positive (4.13) and negative (3.46) mood conditions.

These findings may show that, because the mood generated by a program was particularly salient, subjects assigned to a negative mood condition were cognitively busy repairing their impaired moods by engaging in an analytical, problem-solving processing for the program context, instead of commercials, even during commercial breaks. Thus, ads were likely to be less favorably evaluated, regardless of their lengths. Consequently, the length of commercials in the negative mood condition did not significantly affect subjects' evaluations.

On the other hand, subjects who were assigned to the positive mood condition were expected to engage in more effortful and systematic processing for persuasive messages in order to maintain their satisfactory mood. In this information-processing strategy, subjects are likely to evaluate ads based on the amount and quality of product-related information in the message. Thus, when a longer ad is given, subjects would evaluate the ad more favorably because of more product-related informational cues. On the contrary, when a shorter ad

appears, subjects would evaluate the ad less favorably due to its lack of product-related information. Hence, due to higher evaluations for the 30-second ads and lower assessments for the 15-second ads and those placed in the negative mood conditions, interaction between two variables became significant.

Despite their statistical nonsignificance, the interactions were near-significant for the attitude toward the Charmin ad, F (1, 114) = 3.28, p = .073, and overall ads, F (1, 114) = 3.23, p = .075. For these two variables, similarly, subjects evaluated the 15-second ads in the negative mood condition relatively favorably. In addition, subjects' evaluations for ads in the negative mood condition were similar between the two length formats. On the contrary, subjects evaluated the longer ads significantly higher in the positive mood condition than in the negative mood condition.

However, overall, interactions between two variables appeared to be limited. Interaction effects were found only with two individual brands in two different measures (A_{ad} and PI) in this study. When evaluations for these variables were combined with three ads/brands, interaction effects disappeared. Yet, this study noticed several possible factors that might make existing interaction effects less observable. First of all, nonsignificant interaction might have occurred by the weaker impact of program-generating moods. As discussed, compared to the clear commercial length effects on ad success regardless of mood types, the effect of context-induced mood was limited to two individual measures for attitude toward ad only. Thus, it is possible that existing interaction effects might not have been observed because of nonsignificant context induced mood effects.

Second, this study used the ads that appeared on Super Bowl broadcasts so that ads with similar evaluations were chosen. However, because of this selection criterion, this study

did not carefully consider the possible impacts of other characteristics, such as the creative characteristics of ads, the context of ads, and moods generated by these ads. As mentioned, most of the ads used in this study were humorous. Thus, it could be possible that commercial creativity, humorous context of ads, and/or positive mood-generated by ads more strongly influenced subjects' evaluations of ads than the context-generated mood

Third, only three ads were included in each of three commercial breaks in this study. Thus, a total length of commercials was 3:45 with three 15-second ads and 4:30 with three 30-second ads. Accordingly, due to the short length of commercials, the total duration of the experimental program became shortened to 24:39 with three 15-second ads and 25:24 with three 30-second commercials in the positive mood-inducing program and to 27:21 with three 15-second ads and 28:06 with three 30-second ads in the negative mood-generating program. However, a typical 30-minute program devotes about 8 minutes to commercials, adding more ads in each break and more breaks in a program. Thus, compared to a normal viewing condition, subjects might have been more suspicious to ads than they normally do, especially in a focused laboratory condition.

Subjects' relevance to products/services tested and their brand loyalty also offer an additional explanation for the observed results. If selected subjects are health- and diet-conscious and low involved in household goods, they might not be interested in fast-food (Quizno), chocolate candy (M&M), and toilet paper (Charmin). If the product categories used in this study might not be closely relevant to the subjects, this target irrelevancy might influence their evaluations for the brands and ads. In this situation, it is reasonable to argue that personal relevancy plays a more important role in evaluating ads than context-induced mood and interaction between commercial length and context moods. That is, the impact of

context-induced mood might be influential only when products are demographically relevant to ad recipients, creating a three-way interaction.

Fifth, this study examined program-induced humor and fear to stimulate positive and negative moods, respectably. However, according to Fredrickson (1998), positive moods can be elicited from four different emotions such as joy, interest, contentment, and love. Similarly, negative moods can be also differentiated in several ways: anxiety and sadness (Raghunathan & Pham, 1999), or alternatively sadness, helplessness, hurt, fear, and anger (Jones, 2006). Accordingly, each emotional status has distinctive characteristics separating it from other similar emotional statuses. This study only tested two types of television programs (sitcom and documentary) and therefore two mood types (humor and fear). Thus, if other types of television programs were included, different findings with significant interaction effects might have been obtained.

Finally, in order to separate the impact from the sequential order of ads and the level of ad clutter, this study only tested subjects' evaluations of the ads placed in the middle of each break. Hence, it may be also plausible that interactions between the length of ads and program-generating moods would be more significant for the ads positioned in the first or last sequence in ad breaks. Three-way interaction effects on advertising effectiveness are also possible among commercial sequence, commercial length, and moods generated by television program.

Some interesting findings were also detected. First, in general, the impact of commercial length was significantly larger than that of context-induced mood. While the context-induced mood was influential in two measures of attitude toward ad for individual

brands, the significant effect of commercial length was discovered in most variables. Therefore, this difference may indicate that the impact of the commercial length is more significant regardless program-induced moods, while that of context-induced mood seems to be contingent on other factors such as commercial creativity, the context of ads, and moods generated by ads.

This study detected the common characteristics of variables with great interactions between commercial length and context-elicited moods. First, subjects' evaluations for 15-second commercials were higher in the negative mood condition than in the positive mood condition. Second, because of the strong performance of shorter length commercials, subjects' evaluations were similar between two length formats in the negative mood condition. Third, due to the poor performance of the 15-second ad and the strong performance of the 30-second ad in the positive mood condition, the effects of commercial length become considerable.

Finally, patterns of subjects' purchase intention toward brands were somewhat different from patterns of their on attitude toward ads. This may indicate that subjects' purchase intention is a combined construct with the evaluation of the ad they had just viewed and their personal evaluations they had built for a relatively longer time. Thus, subjects' purchase intention measures are also likely to include their personal brand loyalty and history. According to previous research on hierarchical sequences of advertising effectiveness, attitude toward ad is an earlier sequence for attitude toward brand and purchase intention (Goldsmith, Lafferty, & Newell, 2000). Thus, advertising attitude may not have a direct impact on purchase intention. Rather, it has to influence attitude toward brand to influence purchase intention for that brand.

In sum, this study investigated how commercial length and context-induced mood influence the effectiveness of television advertising. This study found significant commercial length effects. Consistent with previous research, the findings of this study confirmed that the length of commercials was positively associated with advertising effectiveness regardless of moods generated by television programs. The effects of context-induced mood, however, were not as significant as that of commercial length. The ANOVA analyses found significant mood effects in an individual measure of attitude toward ad, where subjects found the ad placed in the positive television context to be more effective than that in the negative mood condition. For other variables, the findings were not significant, and further, they were also somewhat contradictory. Similarly, this study failed to detect significant interaction effects in overall evaluations. Interaction effects were only found in individual ad and brand measures (attitude toward the chocolate commercial and purchase intention for toilet paper). Hence, seemingly, the effects of interactions between the two variables are limited. Further, based on the findings of this study, it can be concluded that commercial length effects are more salient in affecting ad performance than effects generated by program context. However, considering two significant interactions and several near-significant interactions, more empirical research should follow to gain a better understanding of the effects of context-induced mood and commercial length on television advertising.

Implications

Arguably, commercial length is one of the most important factors for pricing television advertising. Because of this reason, the influence of commercial length on advertising success has been a major research topic in the past studies. Similarly, television

program-induced moods have been also found to have a significant impact on ad performance, especially in televised media. However, in spite of important theoretical and practical implications, scant attention has been given to explaining the interaction between these two variables, an important task in achieving a thorough understanding of television advertising. Rather, previous studies, for the most part, have only examined these two areas independently. Hence, by assessing the effects of these variables together, this study has been able to yield important implications. First, this study is considered a seminal investigation into the impacts of context-induced mood and commercial length on the effectiveness of television advertising together. By combining two important variables in the same research setting, this study produced findings that are more meaningful and generalizable, and which contribute to a better understanding of television advertising in general.

Second, by observing the most appropriate advertising environments for each commercial length and program-elicited mood condition, this study successfully yielded important marketing implications and delivered advertising strategies that are applicable to media planning practice. For instance, although this study found that longer ads were generally more effective regardless of the types of moods television programs generate, this study also detected that, compared to their longer counterparts, shorter ads performed relatively well in the negative mood condition. Thus, based on this observation, placing short commercials within negative-mood generating programs is suggested as a cost-efficient strategy for pricey television advertising.

Moreover, the findings of this study also suggest that the commercial length influences the different aspects of advertisement performance. For example, longer ads were more effective in attitude toward ads (M&M, Charmin, and three ads) and purchase intention

(Charmin and overall brands) in the positive mood condition. On the other hand, in the negative mood condition, longer ads were more efficient improving brand recall and brand recognition. Therefore, based on this performance difference, advertisers should employ different placement strategies depending upon the goals of their campaigns. For instance, if the purpose of an ad campaign is to increase awareness of a brand (e.g., to increase brand recall or recognition), placing a longer ad in negative mood-generating programs would be most effective. If the goal is attitudinal and behavioral change (e.g., to increase attitude toward an ad or purchase intention for a brand), inserting a longer ad into positive mood-inducing programs is expected to produce more profitable results.

Limitations

The findings of this study should be interpreted with an understanding of the following limitations. First, this study was conducted in a laboratory condition. Experiments are often criticized for their forced reactions compared to natural quasi-experiments. Unlike natural viewing situations, laboratory experiments have subjects watch television programs and commercials in an artificial environment. In practice, however, more television channel options and commercials, along with viewers' willingness to select when and if to watch television are likely to make this condition extremely complicated. Hence, it may be questionable whether the findings of this study would be replicated in natural television-viewing conditions.

Second, experiments using student subjects are also often criticized for their lack of representability and for convenience sampling. Although students are a major part of the

television viewing population, the results may have been different if other groups of population participated in the study.

Third, this research utilized only two television program-elicited moods and two different commercial lengths. However, in practice, there are numerous types of television programs that can generate various types of moods and advertisers who create commercials with different length formats.Considering these diverse alternatives, the findings of this study may not be generalizable to the whole television advertising.

Fourth, this study chose the ads from previous Super Bowl games. However, ads embedded in the Super Bowl broadcasts were mostly humorous, so were the ads included in this study were also mostly humorous. Thus, the humorous characteristic of the commercials might have influenced subjects' evaluations, in addition to commercial length and context-induced mood. Moreover, this humorous characteristic of ads might have influenced the measure of the mood generated by programs, particularly for the positive mood program. For instance, when subjects' moods were measured, their positive (or negative) mood could be partially influenced by the humorous context of commercials, not entirely by the context of the program itself. Further, because the tested commercials were broadcast previously, subjects might have previously viewed some or all of ads tested in this study. If this occurred, subjects' viewing history might have also influenced their evaluations for ads, as well as two testing variables. Thus, in the future study, commercials should be carefully selected through pretests.

Finally, in a typical 30-minute program, 8 to 8:30 minutes were allowed for commercial messages. However, in this study, 3:45 (with three 15-second ads) and 4:30 (with three 30-second ads) were allocated for promotional messages. Nine ads were placed in

three commercial breaks with three ads each. Therefore, the ads included in this study might have become easy to memorize due to the small number of ads and lack of competition with other ads in a break. Further, considering the forced nature of an experiment condition, subjects might pay more suspicious attention to those fewer ads. These limitations should be minimized in the future research.

Future Study

Future research may take this area of study in several directions. The present study paved the road to understand how commercial length and context-induced mood together influence processing televised broadcasting advertising. Thus, one approach is to broaden the examination of advertising strategies in these areas. More scientific research designs with more subjects, including non-student participants, and various television programs that generate different types of moods should be included. Examining other variables, such as ad creativity, subjects' brand loyalty, their program knowledge, and involvement in television programs and advertised brands is also suggested. As discussed, there were limitations in testing the hypotheses. Hence, by eliminating those limitations, future research can earn more generalizeable and precise findings.

Second, reexamination of rejected hypotheses of this study is also suggested for the future research, especially for program-elicited moods. As suspected, the possible impacts of other variables such as ad context, moods generated by those ads, and subjects' relevancy to products may have been partially or fully responsible for the lack of context-induced mood effects as well as interaction. Thus, future research should examine the influences of these variables in investigating interaction between length of ads and context-induced mood.

Third, according to previous research, positive moods can be drawn from four different emotions: joy, interest, contentment, and love (Fredrickson, 1998). Similarly, negative moods have been examined in several forms in previous studies. For instance, Raghunathan and Pham (1999) attempted to differentiate the impacts of anxiety and sadness, two different types of negative moods, whereas Jones (2006) included five distinctive negative emotions in which general people commonly experience in emotionally distressed situations: sadness, helplessness, hurt, fear, and anger. According to these studies, each emotional status has distinctive characteristics and thereby can lead to different reactions. Thus, it is suggested that future studies expand the scope of research by including different mood types that were not included in this study.

Finally, in order to control the impacts from other influences, such as the frequency of ads and order of ads, this study included ads that appeared only once during the broadcast and only investigated ads placed in the middle of a sequences in each commercial break. In addition, to prevent an ad clutter effect, the number of ads was set to three in each break. However, these controlled variables have been found to significantly influence the success of television advertising. For instance, the number of ads is positively associated with advertising effectiveness because the substantial overlap between two stimuli facilitates encoding of the message after the additional exposure (Murray & Jenkins, 1992; Rethans, Swasy, & Marks, 1986; Singh, Linville, & Sukhdial, 1995; Singh & Rothschild, 1983; Singh, Rothschild, & Churchill, 1988). Thus, future research investigating the effects of context-induced moods on ad performance with the aforementioned variables should produce a better understanding of television advertising.

Appendix 1:

Please read the instructions prior to answering questions.
The purpose of this study is to observe college students' television viewing behavior.
You can skip any question you feel uncomfortable answering.

This is NOT a test,
so please do **NOT** return to previous questions to change or revise your answers.

1. What is the *title* of the TV program you just watched? Can you name it?

    a. _____
    b. No, I can *NOT*.

2. Have you ever watched *any episode* of this program *at least* once *before*?

    a. Yes
    b. No

3. Have you seen *the episode* you just watched *before*?

    a. Yes
    b. No

4. Do you like this type of television program?

    a. Yes
    b. No

5. If you had to choose, which of the following genre categories best describes your favorite types of television programs? Check all that apply.

    a. Comedies (includes sitcoms or other shows meant to be funny)
    b. Dramas (fictional shows meant to be serious)
    c. Documentaries (nonfiction, not news)
    d. News shows
    e. Sports broadcasts / Sports news
    f. Movies
    g. Reality shows (includes studio and non-studio competitions, real life, stunts, talk shows)
    h. Music programs (includes music videos)
    i. Soap operas
    j. Others _____

6. How many days per week do you watch the following types of television programs?

	Never (0 days)	1	2	3	4	5	6	Everyday (7 days)
Comedies	☐	☐	☐	☐	☐	☐	☐	☐
Dramas	☐	☐	☐	☐	☐	☐	☐	☐
Documentaries	☐	☐	☐	☐	☐	☐	☐	☐
News shows	☐	☐	☐	☐	☐	☐	☐	☐
Sports broadcasts / Sports news	☐	☐	☐	☐	☐	☐	☐	☐
Movies	☐	☐	☐	☐	☐	☐	☐	☐
Reality shows	☐	☐	☐	☐	☐	☐	☐	☐
Music programs	☐	☐	☐	☐	☐	☐	☐	☐
Soap Operas	☐	☐	☐	☐	☐	☐	☐	☐
Others (_____)	☐	☐	☐	☐	☐	☐	☐	☐

Please evaluate the show you just viewed based on the following scales.
(0 = *neutral*, 1 = *slightly,* 2 = *quite*, and 3 = *extremely*)

7. I think the show I just viewed was:

	3	2	1	0 ***Neutral***	1	2	3	
Good	☐	☐	☐	☐	☐	☐	☐	**Bad**
Likable	☐	☐	☐	☐	☐	☐	☐	**Unlikable**
Boring	☐	☐	☐	☐	☐	☐	☐	**Interesting**
Entertaining	☐	☐	☐	☐	☐	☐	☐	**Informative**

8. This show made me feel:

	3	2	1	0 ***Neutral***	1	2	3	
Happy	☐	☐	☐	☐	☐	☐	☐	**Sad**
Pleasant	☐	☐	☐	☐	☐	☐	☐	**Unpleasant**
Bad	☐	☐	☐	☐	☐	☐	☐	**Good**
Cheerful	☐	☐	☐	☐	☐	☐	☐	**Depressed**

9. There were several commercials in the show. Can you remember the types of the products/services advertised during the show? List *ALL* that you can remember.

_____

_____

_____

_____

_____

_____

_____

_____

10. Can you remember the specific brands advertised during the show? List *ALL* that you can remember.

_____

_____

_____

_____

_____

_____

_____

_____

Do ***NOT*** turn to the next page until your instructor asks you to do so.

Please do ***NOT*** return to the questions to change or correct your answers. This is **NOT** a test.

11. There were several commercials in the show. Please, select the types of products/services advertised during the show.

Product/Service Type	***Yes***, I saw the commercial(s) of this product/service type	***No***, I did ***NOT*** see the commercial(s) of this product/service type	***Don't know/ Don't remember***
Sub-Sandwiches	☐	☐	☐
Credit card	☐	☐	☐
Chocolate Candy	☐	☐	☐
Toilet Paper	☐	☐	☐
Office supply	☐	☐	☐
Beer	☐	☐	☐
Delivery service	☐	☐	☐
Athletic shoes	☐	☐	☐
Blue Jean	☐	☐	☐
Soft drink (soda)	☐	☐	☐
Online service	☐	☐	☐
Wireless service	☐	☐	☐
Automobile	☐	☐	☐
Hot Sauce	☐	☐	☐

12. Please, select the specific brands advertised during the show.

Product/Service Type	***Yes***, I saw the commercial(s) of this product/service type	***No***, I did ***NOT*** see the commercial(s) of this product/service type	***Don't know/ Don't remember***
Quizno's	☐	☐	☐
Visa	☐	☐	☐
M&M's	☐	☐	☐
Charmin	☐	☐	☐
Staple	☐	☐	☐
Budweiser	☐	☐	☐
FedEx	☐	☐	☐
Reebok	☐	☐	☐
Levis	☐	☐	☐
Sierra Mist	☐	☐	☐
America Online (AOL)	☐	☐	☐
Verizon	☐	☐	☐
Chevy - Aveo	☐	☐	☐
Tabasco	☐	☐	☐

Do ***NOT*** turn to the next page until your instructor asks you to do so.

Please do ***NOT*** return to the previous questions to correct or revise your answers.

13. The following questions ask you to evaluate each brand and the commercial that appeared in the show.

--- Quizno's ---

a. Have you ever seen *this* ***Quizno's*** *commercial* you just watched *before*?

i. Yes
ii. No
iii. Don't know / Don't Remember

b. Please rate the ***Quizno's*** commercial(s) that appeared during the show based on the following scales: (1 = *strongly disagree* and 7 = *strongly agree*)

	1 *Strongly* ***Disagree***	2	3	4	5	6	7 *Strongly* ***Agree***
Persuasive	☐	☐	☐	☐	☐	☐	☐
Appealing	☐	☐	☐	☐	☐	☐	☐
Easy to forget	☐	☐	☐	☐	☐	☐	☐
Effective	☐	☐	☐	☐	☐	☐	☐
Believable	☐	☐	☐	☐	☐	☐	☐
Informative	☐	☐	☐	☐	☐	☐	☐
Original	☐	☐	☐	☐	☐	☐	☐

c. If you were looking to buy a *sub-sandwich*, how likely is it that you would consider purchasing from ***Quizno's***? Please, rate your opinions on the following scales: (0 = *neutral*, 1 = *slightly,* 2 = *quite*, and 3 = *extremely*)

	3	2	1	0 ***Neutral***	1	2	3	
Unlikely	☐	☐	☐	☐	☐	☐	☐	**Likely**
Impossible	☐	☐	☐	☐	☐	☐	☐	**Possible**
Improbable	☐	☐	☐	☐	☐	☐	☐	**Probable**

--- M&M's ---

a. Have you ever seen *this **M&M's** commercial* you just watched *before*?

   a. Yes
   b. No
   c. Don't know / Don't Remember

b. Please rate the ***M&M's*** commercial(s) that appeared during the show based on the following scales: (1 = *strongly disagree* and 7 = *strongly agree*)

	1 *Strongly* ***Disagree***	2	3	4	5	6	7 *Strongly* ***Agree***
Persuasive	☐	☐	☐	☐	☐	☐	☐
Appealing	☐	☐	☐	☐	☐	☐	☐
Easy to forget	☐	☐	☐	☐	☐	☐	☐
Effective	☐	☐	☐	☐	☐	☐	☐
Believable	☐	☐	☐	☐	☐	☐	☐
Informative	☐	☐	☐	☐	☐	☐	☐
Original	☐	☐	☐	☐	☐	☐	☐

c. If you were looking to buy a *chocolate candy*, how likely is it that you would consider purchasing ***M&M's***? Please, rate your opinions on the following scales:
(0 = *neutral*, 1 = *slightly,* 2 = *quite*, and 3 = *extremely*)

	3	2	1	0 ***Neutral***	1	2	3	
Unlikely	☐	☐	☐	☐	☐	☐	☐	**Likely**
Impossible	☐	☐	☐	☐	☐	☐	☐	**Possible**
Improbable	☐	☐	☐	☐	☐	☐	☐	**Probable**

--- Charmin ---

a. Have you ever seen *this* ***Charmin*** *commercial* you just watched *before*?

(1) Yes
(2) No
(3) Don't know / Don't Remember

b. Please rate the ***Charmin*** commercial(s) that appeared during the show based on the following scales: (1 = *strongly disagree* and 7 = *strongly agree*)

	1 *Strongly* ***Disagree***	2	3	4	5	6	7 *Strongly* ***Agree***
Persuasive	☐	☐	☐	☐	☐	☐	☐
Appealing	☐	☐	☐	☐	☐	☐	☐
Easy to forget	☐	☐	☐	☐	☐	☐	☐
Effective	☐	☐	☐	☐	☐	☐	☐
Believable	☐	☐	☐	☐	☐	☐	☐
Informative	☐	☐	☐	☐	☐	☐	☐
Original	☐	☐	☐	☐	☐	☐	☐

c. If you were looking to buy *toilet paper*, how likely is it that you would consider purchasing ***Charmin***? Please, rate your opinions on the following scales: (0 = *neutral*, 1 = *slightly,* 2 = *quite*, and 3 = *extremely*)

	3	2	1	0 ***Neutral***	1	2	3	
Unlikely	☐	☐	☐	☐	☐	☐	☐	**Likely**
Impossible	☐	☐	☐	☐	☐	☐	☐	**Possible**
Improbable	☐	☐	☐	☐	☐	☐	☐	**Probable**

14. On average, how many minutes each day do you use the following media?

    a. Daily Tar Heel (DTH) _____ minutes
    b. Other daily newspapers (e.g., The New York Times) _____ minutes
    c. Magazine _____ minutes
    d. Television _____ minutes
    e. Radio _____ minutes
    f. Internet _____ minutes

15. How old are you? _____

16. Are you

    a. Female or
    b. Male

17. Are you a

    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Graduate student
    f. Other (_____)

Thank you for your participation!
Have a nice day!

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